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DECEMBER 2008

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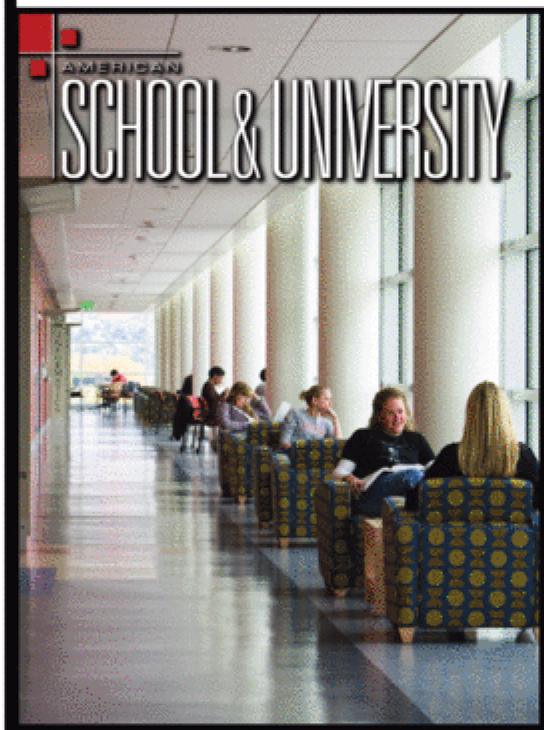
GREEN CLEANING AWARD — 33 GREEN CLEANING AWARD FOR SCHOOLS & UNIVERSITIES



On the Cover: University of Utah, Spencer F. and Cleone P. Eccles Health Sciences Education Building, Salt Lake City; Architect of Record: VCBO Architecture; Design Architect: Ellenzweig Associates; Photographer: Paul Richer/Richer Images

Correction

Please replace the March calendar page with the corrected p. 27. The photo was printed incorrectly (the published photo is of Cannon Design's University of Maine Student Recreation and Fitness Center). Also, note DOWA's new address. *AS&U* regrets the error.

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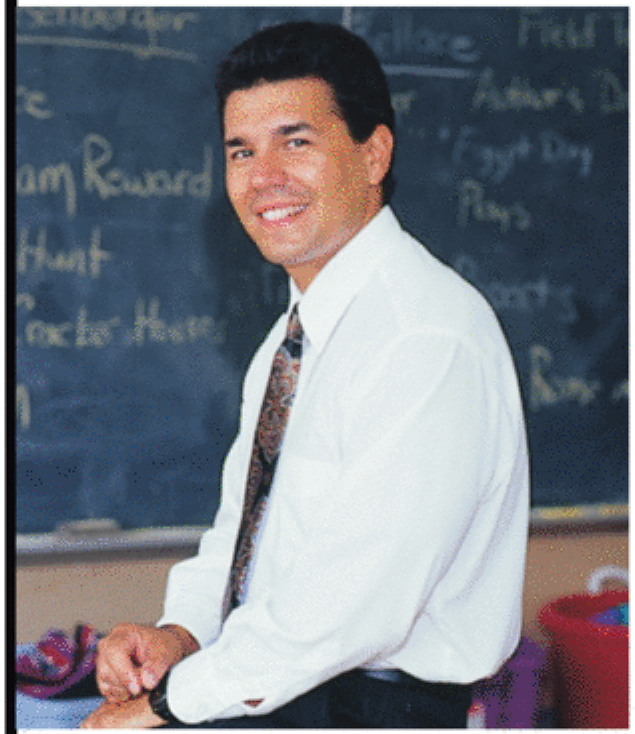

Looking to create more healthful, productive learning environments? The winners of the 2008 Green Cleaning Award for Schools & Universities have some insight to share.

The winners of the second annual award, featured in a special section beginning on p. 33, were announced last month at the inaugural Green Clean Schools National Summit. Representatives from education institutions, national organizations, state and community activists, corporate leaders and others came together to review successful green-cleaning strategies and develop networks for supporting green efforts.

Coordinated by the Healthy Schools Campaign, a partner in *American School & University*'s Green Cleaning Award for Schools & Universities, the summit explored green cleaning, how to build advocacy and support, communication strategies and more.

A number of states require or encourage green cleaning in schools:

•In 2006, New York became the first state to require green cleaning in schools, establishing guidelines that must be used for environmentally sensitive cleaning and maintenance products in K-12 facilities.

•In 2007, Illinois passed legislation requiring schools to develop a green-cleaning policy, and to purchase and use environmentally sensitive cleaning and maintenance products.

•Missouri and Maine have green-cleaning laws that are structured as guidelines rather than requirements.

•California, Delaware, Florida, Iowa, Maryland, Minnesota, Mississippi, Rhode Island, Virginia and Washington all introduced legislation on green cleaning in the past two years.

The writing is on the proverbial wall (which will be cleaned with green products). The trend is toward green cleaning and maintenance, and if you have not investigated green cleaning or are relying on misinformation, such as it is too expensive or does not work as effectively as traditional methods, you are falling further behind the curve.

Learn from those that are leading the charge by viewing this year's award recipients—and you, too, can champion a more healthful, sustainable approach to cleaning while protecting health and the environment. ■

jagron@asumag.com

WEB 101

Information on demand

Did you know that the term "webinar" became a Merriam-Webster's Dictionary entry in 1998—10 years ago? It is defined as "a live online educational presentation during which participating viewers can submit questions and comments." But one good thing that separates webinars from in-person seminars is that you can watch them later at your convenience.

We've just announced the winners of the Green Cleaning Award for Schools & Universities, so this might be a good time to watch some of our archived webinars. This summer, we did a two-part series on green cleaning.

The first webinar discussed introducing green equipment and products, and adopting green procedures. The second in the series took on infection control, including preventing the spread of disease, and protecting health and the environment.

To revisit either of these webinars, or to listen to others on security and technology, visit ASUmag.com/webinars. All of the webinars are free, and you can watch them when you want!—*Susan Lustig*

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The authenticity and timeless beauty of Eldorado Stone is found in this award-winning library in Temecula, California. Panoramic views and state-of-the-art technology are what visitors find at this 32,000-square-foot facility. The design of the library is based on a cathedral spine that divides the building into three main sections including a large community room where a massive, 40-foot stone fireplace creates a beautiful focal point.

To complement and balance the extensive use of glass throughout the project, more than 10,000 square-feet of Eldorado Stone's Manzanita Cliffstone profile was used. "We originally considered natural stone, but we liked the look we achieved with Eldorado," says Bill McAteer, Construction Manager for the City. "It blended beautifully with the hillside and gave us exactly the look we wanted."

Architect Craig Whitridge of LPA, Inc. the architectural firm that designed the project adds, "Our goal in using Eldorado was to find a stone that could replicate what is found naturally in the area, but in an economical fashion that could be used today."

Providing architects and designers more creative tools to work with is part of Eldorado's commitment to developing ground-breaking products and offering more sustainable solutions for its customers. Today, the company offers eco-friendly manufacturing processes that include the use of recyclable contents into its stone products.

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"We're honored that our stone was selected for this prestigious library project," says Spann. It's gratifying to know that so many people will enjoy this library and all the attention to detail that went into creating such a welcoming place to learn."

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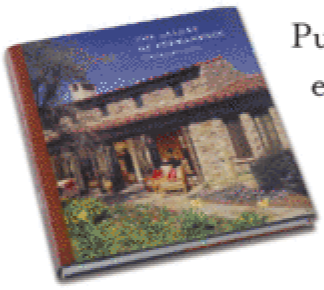

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THE TOP 10 LISTS

School districts with largest enrollment, 2007-08

New York	1,035,406
Los Angeles	694,288
Chicago	408,601
Miami	348,116
Clark County (Nev.)	308,783
Broward County (Fla.)	258,746
Houston	199,534
Hillsborough County (Fla.)	193,062
Hawaii	178,369
Orange County (Fla.)	174,033

Source: States and individual districts

States with highest per-pupil expenditures

New York	$14,884
New Jersey	$14,630
Washington, D.C.	$13,446
Vermont	$12,614
Connecticut	$12,323
Massachusetts	$11,981
Rhode Island	$11,769
Delaware	$11,633
Alaska	$11,460
Wyoming	$11,197

Source: U.S. Census Bureau, Public Education Finances, 2006

Universities with largest enrollment, Fall 2008

Ohio State University	53,715
Arizona State University	52,734
University of Florida	51,413
University of Minnesota	51,140
University of Central Florida	50,629
University of Texas at Austin	50,006
Texas A&M University	48,039
Michigan State University	46,648
University of South Florida	46,174
University of Illinois	42,326

Source: Individual schools

States with lowest per-pupil expenditures

Utah	$5,437
Idaho	$6,440
Arizona	$6,472
Tennessee	$6,883
Oklahoma	$6,961
Mississippi	$7,221
Nevada	$7,345
North Carolina	$7,388
Texas	$7,561
Alabama	$7,646

Source: U.S. Census Bureau, Public Education Finances, 2006

States with most public school students, 2006-07

California	6,406,821
Texas	4,599,509
New York	2,809,649
Florida	2,671,513
Illinois	2,118,276
Pennsylvania	1,871,060
Ohio	1,836,096
Michigan	1,714,709
Georgia	1,629,157
North Carolina	1,444,481

Source: National Center for Education Statistics

Most capital outlay (state)

California	$10.04 billion
Texas	$6.17 billion
Florida	$4.86 billion
New York	$3.97 billion
Ohio	$2.18 billion
New Jersey	$2.03 billion
Illinois	$2.02 billion
Pennsylvania	$2.01 billion
Georgia	$1.93 billion
Michigan	$1.84 billion

Source: U.S. Census Bureau, Public Education Finances, 2006

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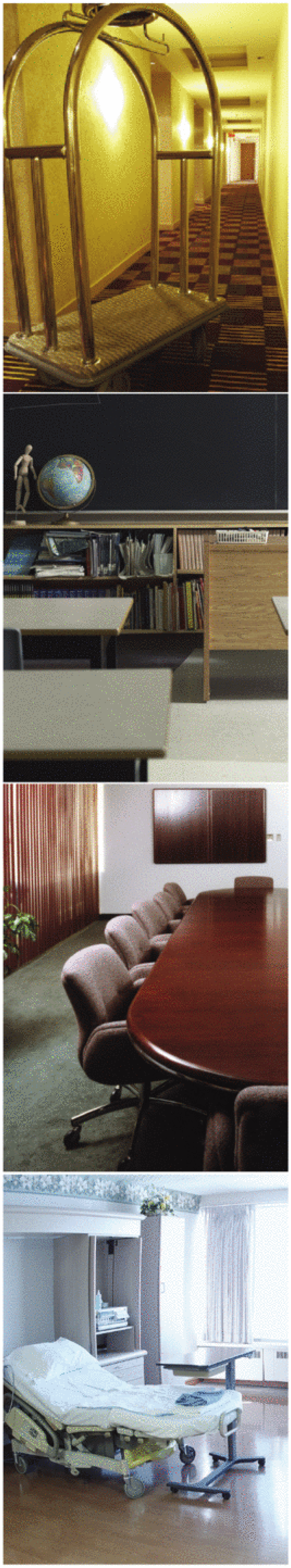

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States with largest average high-school enrollments, 2006-07

Florida	1,716
California	1,460
Nevada	1,356
Maryland	1,348
Hawaii	1,329
Georgia	1,308
Virginia	1,249
Delaware	1,112
Connecticut	1,056
Texas	1,040

Source: National Center for Education Statistics

States with smallest average high-school enrollments, 2006-07

South Dakota	227
Montana	279
Oklahoma	347
Nebraska	349
Wyoming	371
New Mexico	384
North Dakota	396
Kansas	420
Iowa	463
Arkansas	473

Source: National Center for Education Statistics

States with greatest percentage of students eligible for free and reduced-price lunches

Mississippi	67.5%
Louisiana	61.5%
New Mexico	60.9%
Arkansas	58.7%
Oklahoma	55.2%
Washington, D.C.	54.5%
South Carolina	51.3%
Alabama	51.1%
Kentucky	51.0%
Georgia	50.4%

Source: National Center for Education Statistics

States with highest percentage of students enrolled in city public school districts, 2006-07

Washington, D.C.	100%
Arizona	53.1%
Alaska	48.6%
California	48.1%
New Mexico	43.7%
New York	43.6%
Texas	42.6%
Nebraska	38.6%
North Carolina	37.0%
Louisiana	35.9%

Source: National Center for Education Statistics

Districts with greatest per-pupil spending, 10,000+ enrollment

Trenton, N.J.	$21,927
Newark, N.J.	$21,295
Jersey City, N.J.	$19,473
Camden, N.J.	$18,655
East Orange, N.J.	$18,306
Paterson, N.J.	$18,268
Boston	$17,421
Yonkers, N.Y.	$16,942
Passaic, N.J.	$16,811
Elizabeth, N.J.	$16,638

Source: Public Education Finances, 2006, U.S. Census Bureau

Districts with lowest per-pupil spending, 10,000+ enrollment

Tooele, Utah	$4,881
Alpine, Utah	$4,918
Jordan, Utah	$4,960
Washington County, Utah	$5,019
Nebo, Utah	$5,101
Weber County, Utah	$5,187
Granite, Utah	$5,202
Davis, Utah	$5,266
Meridian, Idaho	$5,296
Cache County, Utah	$5,371

Source: Public Education Finances, 2006, U.S. Census Bureau

States with most districts of greater than 10,000 enrollment, 2006-07

California	163
Texas	91
Florida	38
North Carolina	37
Georgia	36
Washington	31
Virginia	27
Arizona	26
Indiana (tie)	24
Michigan (tie)	24

Source: National Center for Education Statistics

States with greatest number of regular school districts, 2006-07

Texas	1,033
California	989
Illinois	873
New York	697
Ohio	614
New Jersey	593
Michigan	552
Oklahoma	540
Missouri	524
Pennsylvania	501

Source: National Center for Education Statistics

States with greatest number of public schools, 2006-07

■California	10,038
■Texas	8,630
■New York	4,708
■Illinois	4,392
■Michigan	4,133
■Ohio	3,972
■Florida	3,952
■Pennsylvania	3,286
■Minnesota	2,665
■New Jersey (tie)	2,470
■North Carolina (tie)	2,470

Source: National Center for Education Statistics

States with lowest pupil-teacher ratios, 2006-07

Vermont	10.8:1
Maine	11.5:1
Virginia	11.6:1
North Dakota	12.1:1
New Jersey	12.4:1
Wyoming	12.6:1
New York	12.8:1
New Hampshire	13.1:1
Massachusetts (tie)	13.2:1
Alabama (tie)	13.2:1

Source: National Center for Education Statistics

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THE TOP 10 LISTS

States with highest percentage of students enrolled in suburban public school districts, 2006-07

Hawaii	100%
New Jersey	79.7%
Maryland	76.7%
Florida	72.0%
Nevada	71.8%
Massachusetts	70.4%
Utah	62.2%
Delaware	59.1%
Connecticut	55.8%
Rhode Island	55.1%

Source: National Center for Education Statistics

Greatest percentage change in average instructional staff salaries, 1995-96 to 2005-06

■Mississippi	46.6%
■Arkansas	46.4%
■Louisiana	44.3%
■North Dakota	43.9%
■Georgia (tie)	41.7%
■New Mexico (tie)	41.7%
■Kentucky	39.0%
■North Carolina	38.9%
■Hawaii	38.3%
■Wyoming	38.0%

Source: National Education Association, Estimates Database

Smallest percentage change in average instructional staff salaries, 1995-96 to 2005-06

Massachusetts	10.8%
New Hampshire	12.2%
Kansas	12.9%
Pennsylvania	18.2%
West Virginia	19.7%
New Jersey	20.0%
Connecticut	20.1%
New York	20.3%
Alaska	20.6%
Nevada	23.2%

Source: National Education Association, Estimates Database

States with most students in charter schools, Fall 2008

■California	252,569
■Arizona	119,516
■Texas	108,541
■Florida	108,382
■Ohio	94,171
■Michigan	93,892
■Pennsylvania	61,823
■Colorado	53,249
■Wisconsin	41,799
■Georgia	40,807

Source: Center for Education Reform

States with the greatest number of charter schools, Fall 2008

California	763
Arizona	506
Florida	384
Texas	333
Ohio	299
Wisconsin	254
Michigan	249
Minnesota	158
Colorado	147
Pennsylvania	133

Source: Center for Education Reform

States with most newly opened charter schools, Fall 2008

■California	65
■Florida	37
■Arizona	29
■New York	21
■Georgia	17
■Ohio (tie)	14
■Washington, D.C. (tie)	14
■Minnesota (tie)	13
■Texas (tie)	13
■Oregon (tie)	12
■Louisiana (tie)	12

Source: Center for Education Reform

Universities with largest academic research and development expenditures, fiscal 2007

The Johns Hopkins University	$1.55 billion
University of California, San Francisco	$843 million
University of Wisconsin, Madison	$841 million
University of California, Los Angeles	$823 million
University of Michigan, all campuses	$809 million
University of California, San Diego	$799 million
Duke University	$782 million
University of Washington	$757 million
Ohio State University, all campuses	$720 million
Stanford University	$688 million

Source: National Science Foundation

States with highest average salaries for instructional staff, 2006

■Connecticut	$62,395
■New Jersey	$61,541
■Alaska	$60,376
■California	$59,825
■Washington, D.C.	$59,000
■New York	$58,630
■Michigan	$58,592
■Massachusetts	$58,353
■Illinois	$58,012
■Rhode Island	$57,915

Source: National Education Association, Estimates Database

States with lowest average salaries for instructional staff, 2006

■South Dakota	$35,983
■North Dakota	$39,065
■Montana	$39,832
■West Virginia	$39,856
■Oklahoma	$40,370
■Idaho	$41,150
■New Mexico	$41,637
■Louisiana	$41,856
■Mississippi	$42,084
■Missouri	$42,335

Source: National Education Association, Estimates Database

States with highest percentage of students enrolled in rural public school districts, 2006-07

Maine	54.0%
Vermont (tie)	51.5%
South Dakota (tie)	51.5%
North Carolina	47.8%
Mississippi	47.2%
Alabama	41.4%
Kentucky	40.1%
North Dakota	39.8%
West Virginia	39.7%
Arkansas	37.8%

Source: National Center for Education Statistics

Communities with the highest percentage of public school students enrolled in charter schools, 2007-08

■New Orleans	55%
■Washington, D.C.	31%
■Southfield, Mich. (tie)	28%
■Dayton, Ohio (tie)	28%
■Pontiac, Mich.	25%
■Youngstown, Ohio	24%
■Phoenix (Ariz.) Union H.S. District (tie)	23%
■Kansas City, Mo. (tie)	23%
■Detroit (tie)	22%
■San Antonio (tie)	22%

Source: National Alliance for Public Charter Schools ■

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10 Steps to Success

Even in a struggling economy, schools and universities can provide stimulating and appealing learning spaces.

BY MIKE KENNEDY

As gloomy financial news piles up day after day, schools and universities across the nation are struggling to keep their systems operating. In California, education officials have been warned to prepare for cuts of $2 billion to $4 billion. The Dallas school district has fired hundreds of employees as it wrestles with an estimated deficit of $75 million.

But despite the money woes weighing down education institutions, students continue to show up every morning and fill the seats in millions of classrooms and lecture halls. They are there to learn, and schools and universities have to take advantage of the resources they still have and provide the most effective educational environment possible.

That means that schools and universities have to work harder to provide facilities and campuses that are safe, healthful, modern, flexible, environmentally sensitive, well-managed, inviting and, of course, cost-effective. In short, education administrators have to continue to do what they always have tried to do: maximize their limited resources to provide a high-quality education to their students.

Here are 10 areas that education administrators can target as they work to create and maintain facilities that offer a high-quality learning climate:

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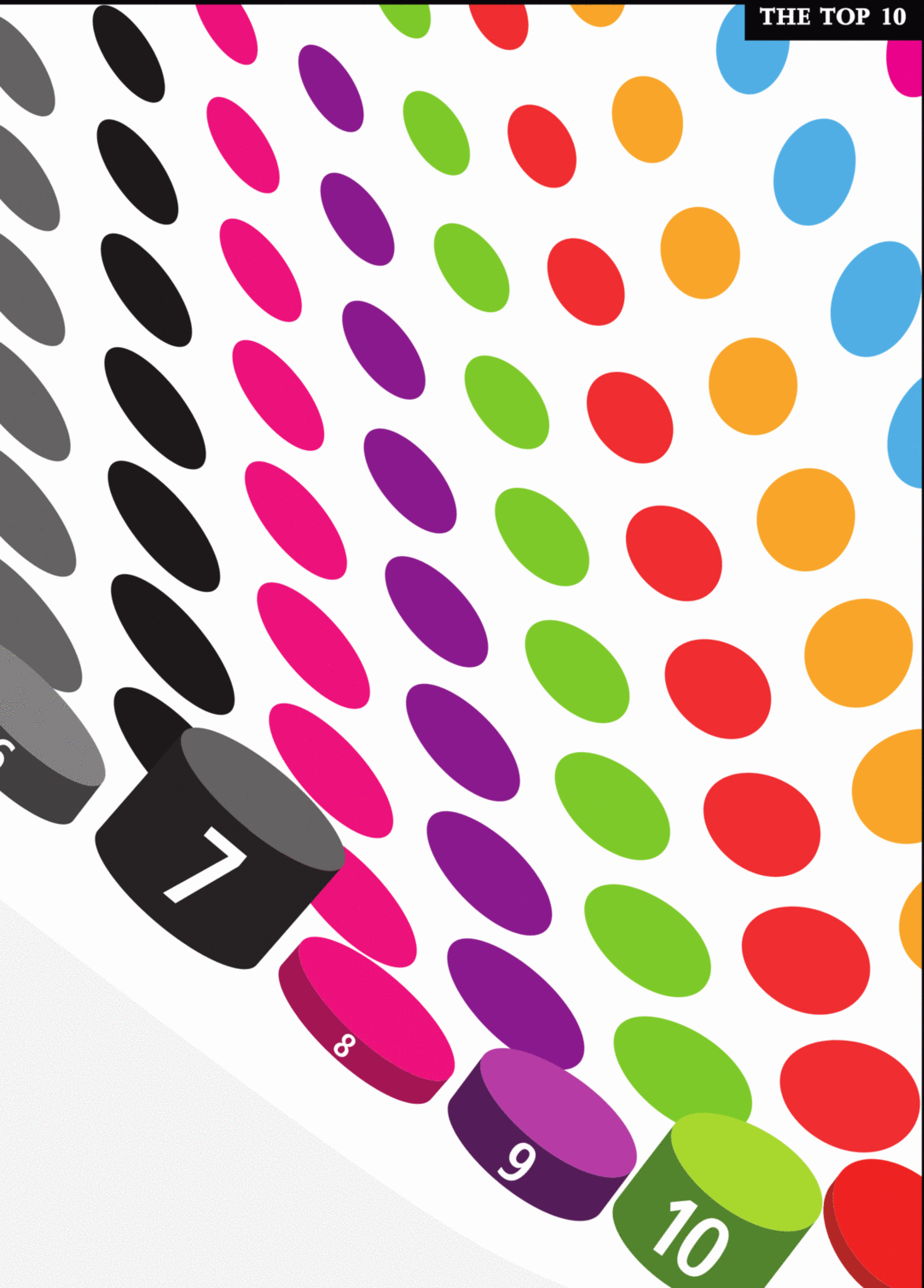
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BUDGET

In the best of economic times, education institutions struggle to find enough money to provide the programs and services their communities demand. As 2008 comes to an end, the reality for most schools and universities is that they're going to have to make do with even less. From coast to coast, state and local governments are slashing their spending, and those reductions invariably affect education funding, which makes up a sizable share of most state budgets.

California Gov. Arnold Schwarzenegger has warned educators to prepare for cuts of $2 billion to $4 billion. In New York state, Gov. David Paterson is proposing a $585 million reduction in school aid for fiscal year 2008-09, and an $844 million reduction for fiscal 2009-10. The Dallas district has laid off more than 600 employees since the school year began to cope with an estimated $75 million budget shortfall.

Under such financial pressures, education institutions have to be more careful than ever about allocating their resources wisely.

"Schools want to get the most value for the money they spend," says Mark Gerner, an architect with SHW Group. "The degree of scrutiny over every dollar is higher. You need to communicate the value of what you're doing."

Each institution has unique characteristics that will determine how it navigates the rough financial conditions. Earlier this year, the Clark County (Nev.) district cited the shaky economy as one reason it rescinded plans for a $7 billion November bond proposal. But officials in the Los Angeles Unified School District assessed the financial climate and the mood of its constituents, and decided to press ahead with its own $7 billion bond request, which voters overwhelmingly approved last month.

FORWARD-THINKING

The school facility built a few years ago isn't necessarily the ideal learning environment for the students filling classrooms today, or the ones that will come through the doors a few years hence. So in assessing their facility needs, schools and universities need to have a vision of how education may change and how learning environments will evolve to meet the needs of the coming generations.

"You have to be agile," says Mark Gerner, an architect with SHW Group. "Schools need to be flexible enough to incorporate new technology and accommodate different learning styles."

Technological advances are making it possible for education institutions to individualize learning for students, and schools and universities should provide spaces for formal and informal teaching and learning to occur.

COMMUNITY

Persuading people to support education with their tax dollars is a constant task for schools and universities. When economic conditions are poor, as they are now, education institutions can bolster the support they receive by making their institutions integral parts of the communities that lie beyond campus boundaries.

Establishing connections with the community can have financial benefits—schools can team up with partners such as other governmental entities and share the costs of building and operating joint-use facilities. The facilities will be used more extensively when they are opened up to others in the community besides students, and community members will be less likely to view schools as something separate from the rest of the neighborhood.

Schools and universities that seek out strong connections with the people that surround their campuses make it possible for those neighbors to experience for themselves the important role an education institution can have in shaping and leading a community.

HEALTH AND SAFETY

The financial constraints confronting many schools and universities may prevent administrators from pursuing renovations and other campus improvements as aggressively as they would like, but education institutions must make sure that the spaces students will occupy for several hours a day do not endanger health or safety.

Providing acceptable indoor air quality is especially critical for schools because of the greater vulnerability children can have to contaminants. Administrators should make sure facilities are designed and equipped properly to keep pollutants out, provide fresh air, and prevent buildup of moisture that leads to mold growth.

Another aspect of health that schools and universities are being compelled to address is nutrition. As concern grows about obesity problems among young people, health advocates and educators are looking more closely at the lunchrooms and dining halls that feed millions of students each day.

Schools and universities are becoming more aggressive about discouraging consumption of soft drinks and junk-food snacks, and altering their menus to provide students with meals that have less fat and are more nutritious.

CONTINUED...

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SECURITY

Effective learning will not take place in an environment where students constantly are looking over their shoulders in fear of intimidation by school bullies or the next explosion of violence from a troubled classmate. The National Center for Education Statistics (NCES) says that in 2005, 1.2 percent of students age 12 to 18 reported being a victim of violence at their schools.

Student-on-student violence can occur among friends, as it did last month, when a 15-year-old girl was shot to death by a classmate in a Fort Lauderdale, Fla., high school. Or a student can be victimized by random violence, as it did the day before the Florida incident, when a 14-year-old boy entered a Montrose, Colo., high school, where he was not a student, and slashed the throat of a 17-year-old girl. (The girl underwent surgery after the attack and is recovering.)

Violence also plagues higher-education campuses. Less than a year after the tragic killings at Virginia Tech in Blacksburg, a gunman at Northern Illinois University in DeKalb killed six and wounded 18 in a shooting rampage.

The effects of violent episodes can spread far beyond the victim and contaminate the climate of an entire campus. Schools and universities have worked to deter violence on their campuses and respond more quickly when incidents occur. Those strategies include adding school resource officers or other public-safety personnel; outfitting facilities and campus grounds with surveillance cameras and access-control systems; establishing anti-bullying and other intervention programs that can identify students or others on a campus who may be prone to violence; and building a comprehensive and speedy communications system that can alert students, staff members and others about potential threats and provide guidance on how to respond to them.

School designs can create more open spaces so that teachers and administrators can see who is coming and going, and monitor student behavior more easily.

10 TO TARGET

Areas that education administrators can target as they work to create and maintain facilities that offer a high-quality learning climate:

- BUDGET
- FORWARD-THINKING
- COMMUNITY
- SECURITY
- HEALTH and SAFETY
- TECHNOLOGY
- ENVIRONMENTAL STEWARDSHIP
- MAINTENANCE
- LEARNING CLIMATE
- APPEALING

ENVIRONMENTAL STEWARDSHIP

Economic hardship may tempt some schools and universities to cut short-term costs at the expense of long-term benefits. But the education institutions that have embraced sustainable design and construction, and other green practices, know that short-sighted facility decisions can cost more in the long run.

The embrace of the green movement by the education community continues to grow as administrators realize that environmentally sensitive facilities consume fewer resources, cause less pollution, provide more healthful spaces, last longer and offer important learning opportunities for students. (For a greater examination of green schools, see p. 25.)

MAINTENANCE

Over the years, when schools and universities have faced budget crises, the funds allocated for maintenance often have been the first to get cut. In the 1970s, when student enrollment began to decline and many school facilities were allowed to age and deteriorate, the practice of "deferred maintenance" was so common that the phrase became an embarrassing symbol of the neglect.

Schools and universities have learned the hard way that inadequate maintenance inevitably leads to more serious problems and shortens the life of a facility. If deferring maintenance is the knee-jerk response to any budget crisis, education institutions will never catch up and their facilities will be plagued with maintenance trouble forever.

Computerized maintenance-management programs can help school administrators establish a regular, comprehensive schedule for building maintenance tasks and use objective standards for determining which jobs should take priority.

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LEARNING CLIMATE

Many educators believe that the number of students in a classroom is a critical factor in bolstering student achievement, especially in the primary grades. But having fewer students per classroom means that schools need more teachers—and the money to pay them. Education institutions strapped for funds are finding it difficult to meet the class-size-goals mandate that states have imposed.

In Georgia earlier this year, Gov. Sonny Perdue acquiesced to budget pressures and agreed to grant waivers for the next two years for school districts who can't meet the state's class-size mandates.

Smaller schools are another way that districts are trying to create improved learning conditions. Throughout the nation, small-school advocates have launched programs to create smaller schools.

"Small schools provide a personalized learning environment where students work on complex projects, study multidisciplinary topics, meet high expectations, and effectively demonstrate what they know and can do," says the Oregon Small Schools Initiative. "Students in small schools are also more engaged in the life of the school—they participate in more extracurricular activities and report feeling a part of shaping a positive school culture."

Renaissance 2010—Chicago's plan for creating new, high-quality schools and phasing out failing campuses—calls for most new schools to have small student populations. Since 2005, the district has opened 76 Renaissance 2010 schools.

"National and local research has demonstrated conclusively that students achieve more and are more likely to graduate and go on to college in a small school," the school district says. "Accordingly, most high schools created through Renaissance 2010 should be no more than 600 students in grades 9 through 12."

APPEALING

Despite the dismal economy, educators and administrators should strive to make their facilities inviting and aesthetically pleasing spaces where students and staff feel welcome. Many new schools are including spaces where students can gather informally and interact outside the more formal setting of the classroom.

Some high schools, seeing students flock to Starbuck's and similar operations before and after classes, have opened coffeehouses and cyber cafes in their own buildings to keep the caffeine-fueled discussions and Internet surfing on campus.

For colleges and universities that continually are competing for students, creating appealing spaces applies not only to a student's academic life, but also to a 24-hour existence that includes food, shelter and recreation. That means residence halls that provide amenities that students have come to expect in their home lives, such as apartments and suites that offer more privacy than housing from previous generations, and dining options more diverse and flexible than the typical institution food service of the past.

TECHNOLOGY

As students change the way they tap into information and communicate with their classmates and friends, the learning environment should be able to adapt to their preferences. Laptop computers and miniature devices such as iPods are becoming de rigueur equipment for the 21st-century student, and schools and universities should provide ways to make the technology a seamless part of the campus environment.

For many education institutions, that means establishing wireless Internet access on their campuses so students and staff can have immediate access to online sources of information. Interactive whiteboards are supplanting chalkboards and overhead projectors, and giving instructors new ways to present material to students. The growing reliance on laptops, cell phones, MP3 players and other mobile devices will require abundant and easy-to-access electrical connections to keep appliances charged and operating. ■

Kennedy, staff writer, can be reached at mkennedy@asumag.com.

THE TOP 10

10 PATHS to GREEN

BY MIKE KENNEDY

Schools and universities seeking to make their campuses more environmentally friendly have many avenues available to them.

As 2008 draws to a close, nearly every education institution in the United States is struggling with budget woes stemming from the nation's economic downturn. Some schools and universities may use the dire financial situation as a reason to back away from pursuing efforts to make their campuses more environmentally friendly. But fear of busting the budget shouldn't prevent administrators from exploring green design, equipment and operations.

Countless ways exist for schools and universities to incorporate sustainable strategies into their decisions and operations. Some can add to costs in the short run, but others can be carried out affordably—and provide substantial economic and ecological benefits in the long run.

Some institutions may feel comfortable with a few baby steps into the green world, while others may be ready to commit totally to environmental consciousness. Here are 10 areas in which educators and administrators can beef up their green portfolio:

Alternative fuels

Every day, thousands of school buses rumble down the nation's roads, transporting millions of students to school—and at the same time consuming tons of fuel and spewing tons of pollution into the air. In addition, school districts and universities have numerous other service vehicles to haul materials and equipment or conduct maintenance work.

Many institutions striving to curtail the amount of pollution they generate and hoping to cut their energy costs have converted some of their fleet to vehicles that use alternative forms of energy, or that are outfitted with pollution-reducing devices.

Some school buses and other heavy-duty vehicles are being powered with compressed natural gas, which is cheaper and less polluting than diesel fuel or gasoline. In Portland, Ore., the school system began 25 years ago using propane to fuel its bus fleet. As of 2007, the Clark County (Nev.) district had 1,450 buses that were powered with biodiesel made from soybean oil. The Poudre (Colo.) district reduces its school bus emissions by using ultra-low-sulfur diesel fuel and installing equipment on the buses that reduces the pollution generated from the engine.

Bikes/Walking

Students and staff at schools and universities can cut down on energy consumption and pollution by forgoing fuel-powered transportation to, from and on campus. Many higher-education institutions have created programs that enable students to share or rent bikes.

At Ripon (Wis.) College, the administration goes a step further. Its "Velorution Project" sees the bicycle as "part of the solution to problems of obesity, traffic congestion, fuel consumption, pollution and the erosion of communities to urban sprawl."

To encourage bicycle use instead of cars, Ripon has given a new bicycle to all first-year students that sign a pledge that they will not bring a vehicle to campus during the 2008-09 school year.

"Ripon hopes to break these students of their dependency on cars for transportation and thereby reduce the college's ecological footprint," the school says.

At the K-12 level, many schools are encouraging students to walk or ride bikes instead of riding on a bus or in a parent's car. The U.S. Centers for Disease Control and Prevention has established a program, KidsWalk-to-School, which "aims to increase opportunities for daily physical activity by encouraging children to walk to and from school in groups accompanied by adults."

Water

In addition to energy, school facilities need water to run smoothly. Every day, millions of toilets are flushed, hands and faces are washed, showers are taken, and meals are prepared in education institutions. That takes a huge amount of water, but green advocates argue that schools don't need nearly as much water as they now use.

In "Healthier, Wealthier, Wiser: A Report on National Green Schools," Global Green USA states that schools using green practices can reduce water consumption by 30 percent, compared with a conventional school facility.

Educators and administrators have an abundance of water-conservation techniques to choose from: water-free urinals; low-flow showers and faucets; lower-volume toilets; higher-efficiency irrigation systems; cooling towers maintained or upgraded to use water more efficiently; use of reclaimed water instead of potable water for certain functions, such as landscaping or toilets; and collecting rainwater in retention ponds for irrigating school grounds.

Washington University in St. Louis is pursuing another way to conserve water—or at least the energy used to provide drinking water. The school is working to eliminate the use of bottled water on its campus. Campus officials say the expense and energy expended to bottle water is excessive, compared with the cost of having students use water from a drinking fountain or faucet.

Educational tools

Schools and universities that incorporate sustainable design strategies and green operations into their facilities often use those facilities as a way to teach students and staff about the effectiveness of the green practices.

Schools powered in part with photovoltaic cells can set up displays that show students how much solar energy is being generated. Other monitors can be set up to show students the amount of energy being consumed in a facility and how various operations and equipment alter the usage pattern. Computer programs also can be set up to help students keep track of energy usage and costs.

A school facility can be designed in a way that leaves building systems exposed so that students better understand how those systems function.

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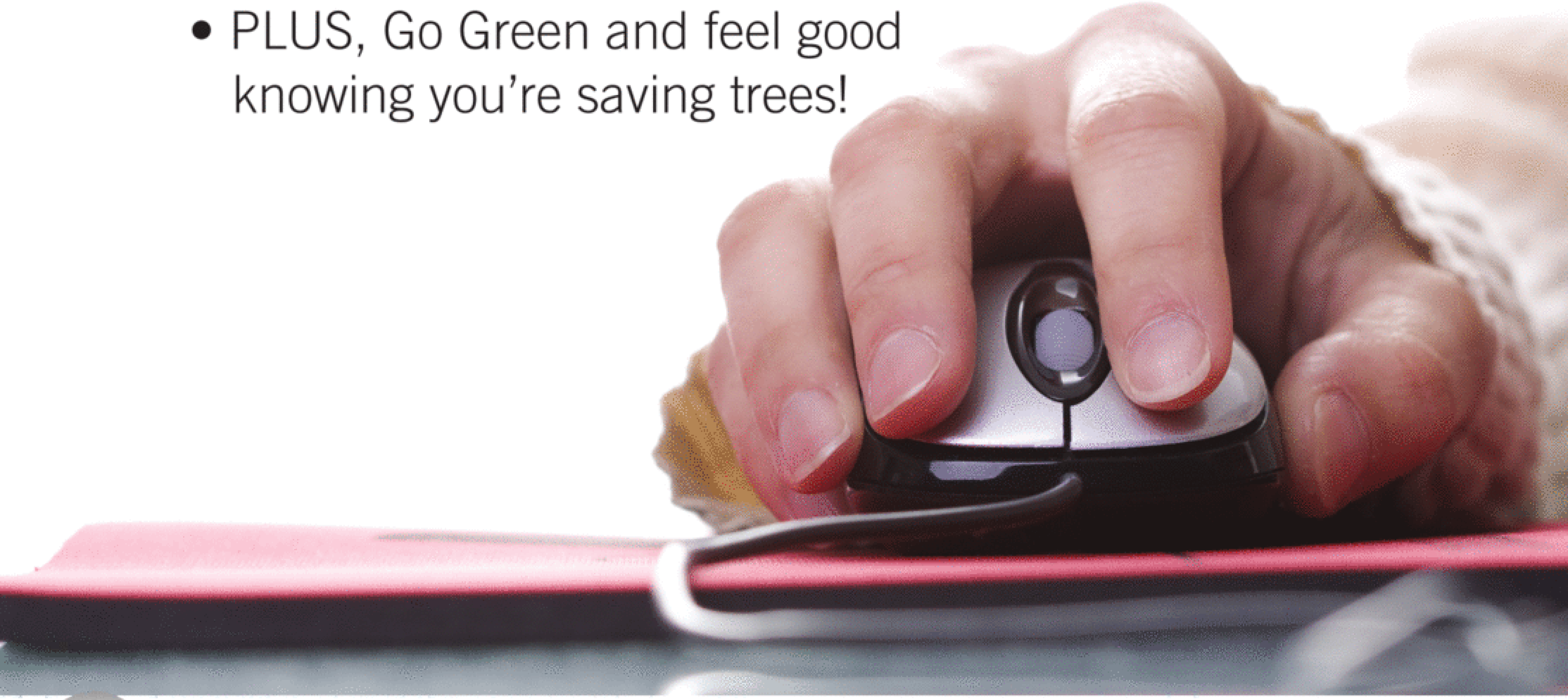

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Paper reduction/recycling

Education institutions go through tons of paper in worksheets, class handouts, notepaper, requisition forms and other bureaucratic documents. Many schools and universities have established programs to reduce the use of paper and encourage recycling.

At the University of California at Berkeley, students have formed the "One Side Clean (OSC) Paper Re-Use Project." As the name implies, the project's aim is to get students and staff members to reuse paper that has been used on only one side. OSC bins with reusable paper have been placed throughout campus in computer labs, administrative offices and other areas.

Berkeley also has begun using paper with at least 30 percent recycled content and urges departments to use both sides of a sheet of paper when printing or copying material.

Recognition

As green school design and construction has become a widely sought goal, organizations have stepped forward to help guide education administrators along the green path, and to provide them recognition when they have achieved an environmentally friendly school facility.

The most well-known of the green rating systems is the Leadership in Energy and Environmental Design (LEED) certification process, established by the U.S. Green Building Council. The LEED program assesses the design and construction of a facility and awards points for incorporating environmentally friendly elements. A platinum rating is the highest level of certification, followed by gold, silver and certified. Last year, the council created a specialized rating system geared for K-12 facilities.

The Collaborative for High Performance Schools (CHPS) has put together volumes that spell out the criteria needed to design and build a high-performance education facility. The CHPS created a rating system based on the criteria that provides benchmarks for schools to meet to be considered a high-performance school.

The Green Building Initiative is another organization that seeks to identify sustainably designed facilities. Its Green Globes rating system is based on a program that began in Canada. Earlier this year, Bethke Elementary School in the Poudre (Colo.) district became the first school in the United States to be recognized by the Green Globes system.

Carbon neutrality

The overall goal of all these energy- and resource-saving conserving steps is to bring about a more healthful planet that will survive and prosper for generations to come. College and university presidents have come together to commit their institutions to long-term efforts to rein in energy consumption and combat global warming.

The higher-education administrators who have signed The American College & University Presidents Climate Commitment have promised to make their institutions carbon neutral—removing as much carbon dioxide from the atmosphere as they generate.

Representatives of about 600 colleges and universities have signed the pledge. They have agreed to complete a comprehensive inventory of all greenhouse gas emissions on their campuses within one year and update the inventory every other year thereafter. They also promise within two years to develop an action plan for achieving climate neutrality on their campuses.

"Campuses that address the climate challenge by reducing global warming emissions and by integrating sustainability into their curriculum will better serve their students and meet their social mandate to help create a thriving, ethical and civil society," the commitment states.

Local food

One sustainable practice becoming more popular among schools and universities is the effort to buy and serve food that has been grown or produced locally. Using local food sources enables schools to reduce the energy expended transporting products and benefits the local economy by supporting area farmers.

The National Farm to School Network has been formed to encourage this trend. The movement is supported by eight regional lead agencies; more than 8,700 schools in 2,000-some school districts are involved in the network.

In addition to providing locally grown food, the Farm to School program promotes teaching students about composting, establishing school gardens, offering cooking demonstrations and conducting farm tours.

Cleaning

A school facility may be designed and built using sustainable strategies, but once the building is open for business, the cleaning and maintenance operation can undermine the environmental friendliness the planners intended.

The Healthy Schools Campaign (www.healthyschools-campaign.org) has created *The Quick & Easy Guide to Green Cleaning in Schools* to help maintenance staffs at education institutions choose the right products and follow the appropriate practices to achieve a safe and healthful cleaning operation.

The guide spells out five steps as an overview for establishing a green-cleaning operation: Use green-cleaning products, use green equipment and supplies, adopt green-cleaning procedures, use paper and plastic products that are green, and share the responsibility.

"It is important to communicate with administrators, staff, teachers, students, visitors and vendors about green cleaning and educate them about their role in maintaining environmental improvements and preventing future problems," the guide states.

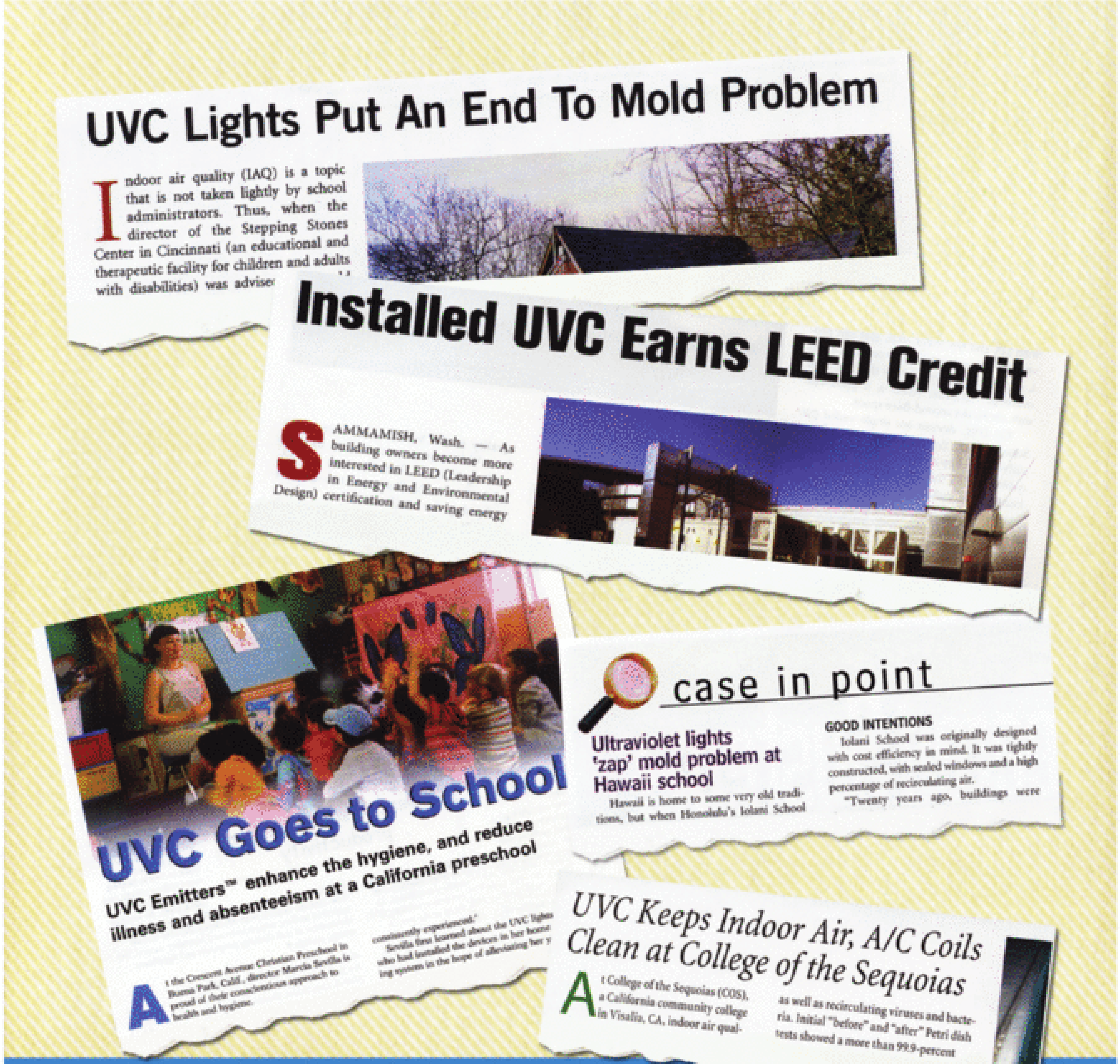
Daylighting

Using natural light to illuminate learning spaces is one of the green practices that has been embraced most widely by the education community. Daylighting strategies enable schools and universities to save energy and money by reducing the use of artificial light, and, if they are designed effectively, can provide a learning environment that improves student performance.

Effective daylighting involves more than just adding windows to let light into a space. The light needs to be reflected and diffused so that it is spread throughout a space and doesn't cause a glare that can detract from concentration and learning.

School daylighting strategies typically use a combination of clerestory windows, light shelves, skylights, baffles, louvers and overhangs to admit enough light to provide a comfortable learning environment that relies less on artificial lights. ■

Kennedy, staff writer, can be reached at mkennedy@asumag.com.



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THE TOP 10 PRODUCTS

In 2008, *AS&U* showcased some of the hottest products in the industry. Following are the 10 most requested, as determined by readers.

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Fluorescent lighting

TCP. The ecoVations Aisle Lighter fixture is designed for surface or suspended mounting heights of up to 40 feet. Requiring low to medium light levels, its superior optic beam covers narrow aisle lighting to open general lighting, making it ideal for open and stack aisles. ecoVations' new line of linear fluorescent lighting fixtures each contain a lamp, ballast and fixture combination system as energy-efficient replacements for traditional metal halide, high-bay systems.

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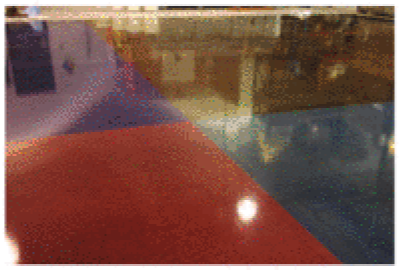

Concrete floor maintenance

Prosoco. Consolideck products for high-performance concrete floors give schools and universities durable, shiny, colorful floors. Both new and old concrete floors can be turned into gleaming, yet slip-resistant surfaces. The Consolideck system includes advanced, easy-application concrete hardener/densifiers, water-based stains and a thin protective coating that never has to be stripped.

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3

Exterior sheathing

Georgia-Pacific Gypsum. DensGlass Gold exterior sheathing is a moisture-resistant gypsum panel used for building envelopes, ceilings and soffits. With paperless, fiberglass mats and a moisture-resistant core, DensGlass Gold resists the effects of surface water exposure during and after construction and is mold-resistant. The sheathing is backed with a 12-month weather-exposure limited warranty.

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4

Energy-efficient laundry

Maytag. The Energy Advantage High Efficiency Single-Load Front-Load Washers are designed to cut utility costs by up to 60 percent. The large tub and door opening make loading and unloading easy, and new bellows to the door interface reduce damage to clothes. With no agitator, the washer holds more laundry. The tinted polymer window enables users to view clothes without opening the door or stopping the wash cycle. The washers use Maytag Computer Trac controls, which display a coin countdown and the estimated time remaining during the cycle.

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5

Locking system

Medeco. KeyMark X4 has up to four times the master key capability of standard locking systems. It offers all the benefits of an interchangeable core system, plus the assurance of true protection against the unauthorized duplication of keys with utility patents on the keyway, key blanks and secondary core locking principle. Keymark X4 key blanks are available with a conventional key bow that is custom-coined for security, or as Hybrid Prox or iCLASS electronic key blanks.

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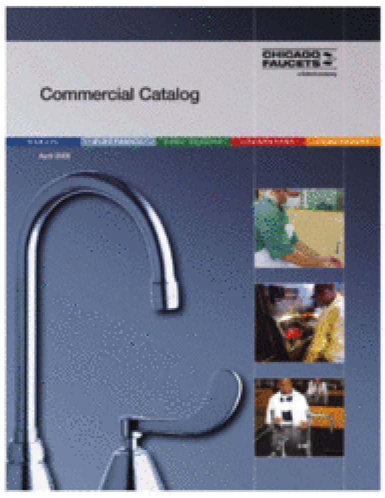

Product catalog

Chicago Faucets. A new catalog featuring an extensive line of commercial products now is available. The 128-page catalog displays six major product categories: manual, electronic, food-service, laboratory, components and repair parts. Products can be found by going to a major category and then using a specific application grouping. From there, products are listed in numerical order.

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Plumbing fixtures • Washroom accessories • Lenox® lockers • Mills® partitions
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7

Restroom partitions

Bradley. Bradmar "No Site" solid plastic partitions eliminate the uncomfortable sightline between the door and pilaster. The European-style partitions close the gap, which can be up to a half-inch on traditional toilet stalls, for a more private enclosure. Matching profiles on the hinge side and an overlap on the strike side create the tight fit. The partitions are available in 26 shades, including 100 percent post-consumer recycled plastic options.

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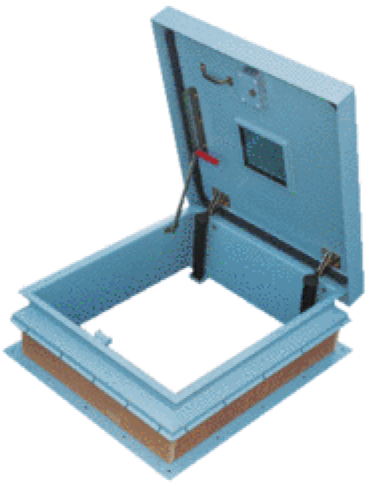
8



Building security

The Bilco Company. The Security Series roof hatch is designed to prevent unauthorized access into a building from the roof level. The hatch is constructed of heavy-gauge materials and features heavy-duty manganese hinges to resist prying and forced entry. A keyed cylinder or detention lock (as specified) prevents the hatch from being opened, and tamper-proof hardware and security fasteners are used throughout.

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9

Roof coatings

West Development Group. HSS 535 and HSS 540 R2R are one-component, moisture-curing silicone rubber roof coatings designed for use on sprayed-in-place polyurethane foam. They can be rolled or spray-applied, and touchup work can be done with a brush or roller. The coatings are tack-free within one to two hours and cure at normal temperatures in two to six hours by reacting with moisture in the air, forming a durable and flexible moisture-free seal.

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10

Digital audio system

AmpliVox Sound Systems. The SW915 Digital Audio Travel Partner is a portable public-address system with remote control, built-in echo/reverb and talk over with enough power to cover audiences up to 7,500 people and rooms as big as 25,000 square feet. It includes a UHF 8-channel diversity internal wireless receiver, a CD/RW MP3 disc player with pitch control and USB input with choice of mic: handheld, headset, collar, or lapel and transmitter. ■

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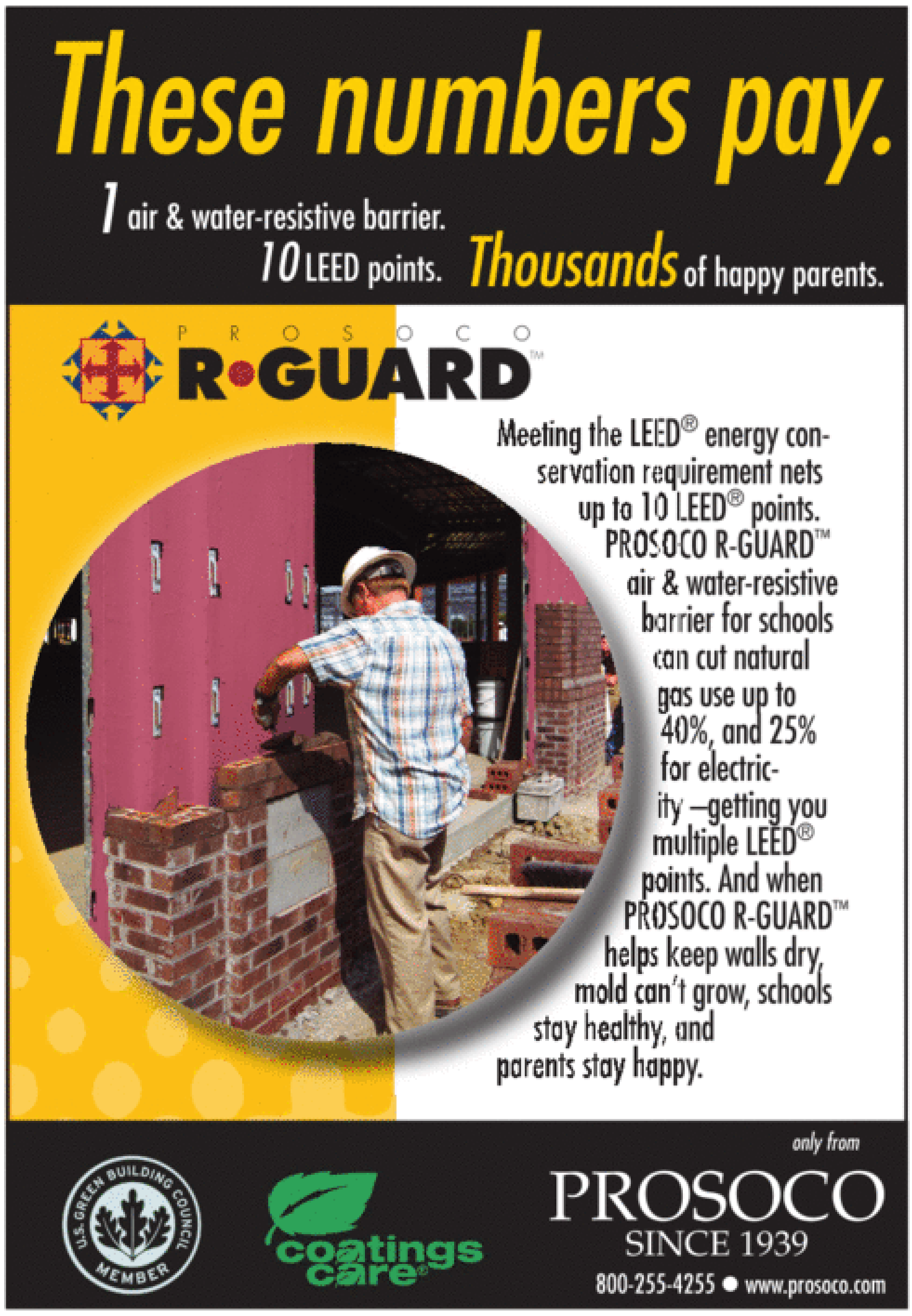

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GREEN
CLEANING AWARD FOR SCHOOLS & UNIVERSITIES

GREEN CLEANING AWARD
for Schools & Universities

36 MEET THE JURY
A closer look at the expert jury that chose this year's award winners.

38 SCHOOL DISTRICTS: GRAND AWARD
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Note: Jury members refrained from judging in situations where there may have been a potential conflict of interest.

DEFINING MOMENTS

When looking back at the history of a program or movement that has experienced extreme success, it's often easy to see the small steps it took to get that program off the ground and on the right path—the moments that truly defined the future of the program.

Many entrants of the 2008 Green Cleaning Award for Schools & Universities are in the first few years of their green-cleaning programs and are initiating new ideas, thinking outside the box, and enabling the strategies that will define green cleaning at their education institutions.

In this special awards program, an expert jury of green-cleaning professionals (see p. 36) chose eight education institutions whose green-cleaning programs are off to a great start in their cleaning efforts to protect health without harming the environment. The jury named a Grand Award winner in each of three categories: school districts, colleges and universities. It also gave one Honorable Mention in the school district category, one in the colleges category and three in the universities category.

Judging criteria were based on the comprehensiveness and quality of the program, and how well each education institution followed the following five steps, as outlined in the second edition of *The Quick & Easy Guide to Green Cleaning in Schools*:

- Use green-cleaning products.
- Use green equipment and supplies.
- Adopt green-cleaning procedures.
- Use green paper and plastic products.
- Share the responsibility.

The eight winners showcased in the following pages show how much one education institution can accomplish in just a few years. These schools have beefed up their recycling programs, reduced their cleaning chemical inventories, improved their maintenance procedures and actually changed the marketplace by partnering with vendors that specify green-cleaning products. This is just the beginning. These and other green-cleaning programs in education institutions across the nation are still young, and the hope for the future of green cleaning is great. ■

Julie Hall

The Green Cleaning Award for Schools & Universities is sponsored by *American School & University*; the Green Cleaning Network, a non-profit clearinghouse that shares information and educates the marketplace in order to accelerate the adoption of green cleaning; and the Healthy Schools Campaign, a non-profit that advocates for policies and model programs that enable students and staff members to learn and work in a healthful school environment.

GREEN CLEANING AWARD
for Schools & Universities

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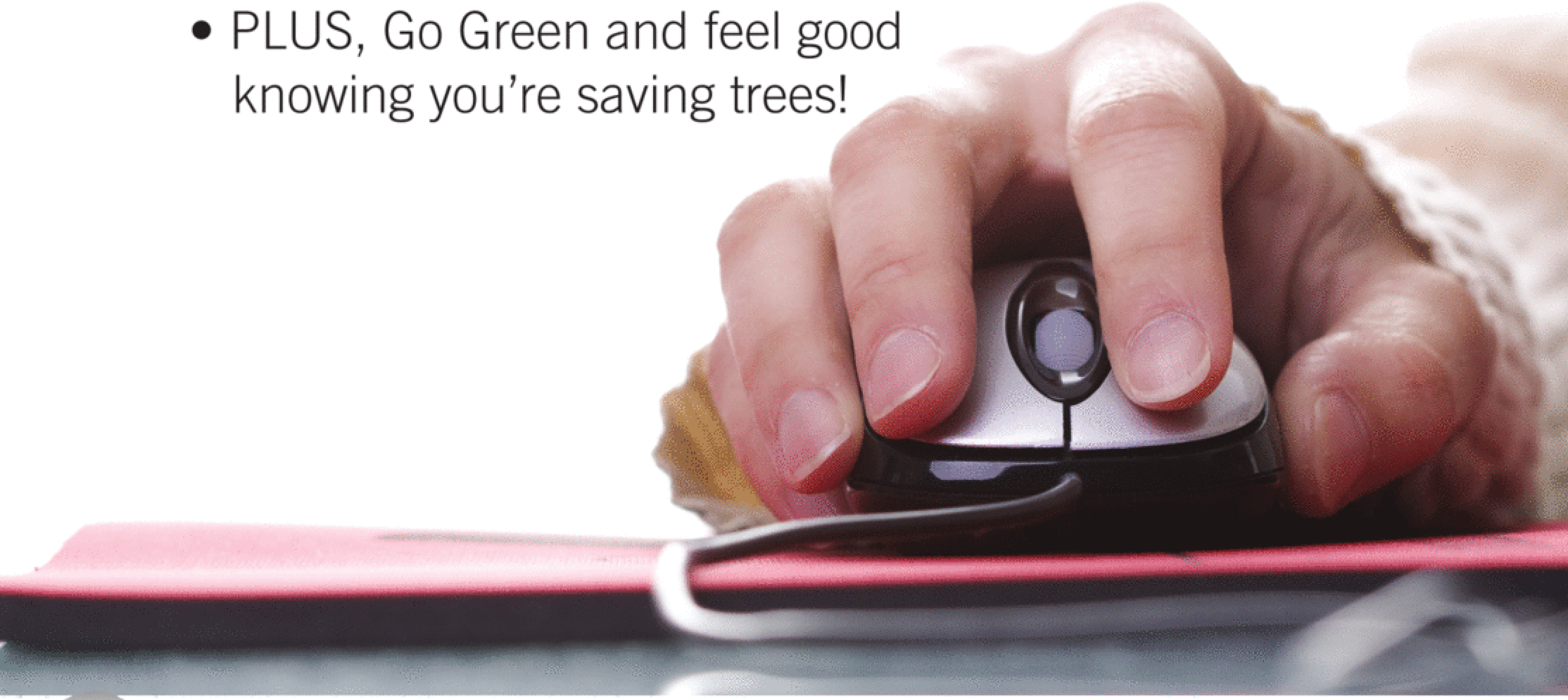

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MEET THE JURY

GREEN CLEANING AWARD FOR SCHOOLS & UNIVERSITIES

STEPHEN ASHKIN

**Founder and Executive Director,
Green Cleaning Network, Bloomington, Ind.**

Steve is a writer, speaker and advocate of green-cleaning issues. He is the author of *Green Cleaning for Dummies, The Business of Green Cleaning* and *The Quick & Easy Guide to Green Cleaning in Schools*. He also writes a monthly column for *American School & University* magazine.

Steve was recognized as a 2006 Excellence Award Winner by the U.S. Environmental Protection Agency for his work to protect children from environmental threats. He has been a member of the U.S. Green Building Council since 1994 and serves on the core committee for LEED for Existing Buildings and the corresponding committee for LEED for Schools.

ROCHELLE DAVIS

**Founding Executive Director,
Healthy Schools Campaign, Chicago**

Rochelle directs the Healthy Schools Campaign's effort to promote green cleaning in schools, which includes the national distribution of *The Quick & Easy Guide to Green Cleaning in Schools* and passage of legislation requiring green cleaning in schools. She also serves as the principal investigator for the Partnership to Reduce Disparities in Asthma and Obesity in Latino Schools, where she works closely with community organizing for environmental justice around children's health disparities. She is a member of the EPA's committee for the Protection of Children's Health and a founding member of the Green Cleaning Network. In addition to judging *AS&U*'s 2008 Green Cleaning Award for Schools & Universities, she also was a judge for *Health Magazine*'s Healthiest Schools Contest.

CLARIS OLSON

**Environmental Health Manager,
Healthy Schools Campaign, Chicago**

Claris worked closely on the development of the first and second editions of *The Quick & Easy Guide to Green Cleaning in Schools*, and collaborates with education and cleaning-industry stakeholders to promote green cleaning.

Her technical background includes 15 years of experience with the U.S. Environmental Protection Agency. At the Healthy Schools Campaign, Claris works with parents and community advocates on Chicago's West side on school indoor air quality issues, including the benefits of green cleaning. She also serves on the Lincoln Middle School Green Team and the Park Ridge Parks' Environmental Taskforce, facilitating the transition to green in the school and park district. ■

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GRAND AWARD

SCHOOL DISTRICTS

>> JONESBORO PUBLIC SCHOOLS—JONESBORO, ARK.

PROGRAM INFORMATION

Number of students: 5,100

Square footage maintained: 1 million+ sq. ft.

Number of full-time custodians: 21

Annual cleaning budget: $1 million
(labor, equipment, supplies and contracting)

Green-cleaning team members: Clinton Byard, Director of Facilities; Tony Taylor, High School Supervisor; Cathy Painter, High School Night Supervisor; Shawn Barrett, Service Master; Tim Mulloy, J&L Janitorial; Johnny Terrell, IAT Janitorial; Elena Archuletta, Manager, GCA Services; Jonesboro Paper and Chemical; Martin Industrial Supply

Jonesboro (Ark.) Public School District committed itself to providing a healthful learning environment as part of its rebuilding program in the late 1990s. Through new construction and renovation, it has replaced most of its existing gas/electric HVAC equipment with geothermal, water-source heat pumps and electric heat-pump systems. The district also has installed ultraviolet light systems in many of these units to assist in purifying indoor air, and has initiated a strict filter replacement schedule.

The district's green-cleaning movement began in 2005 when it switched to green floor-care products with the intention of eliminating the odor and hazards of its traditional floor stripper and finish. The switch increased safety for the custodial staff and enabled the district to continue using its facilities for summer activities, even when floor work was being completed.

The district then evaluated all of its cleaning products and switched to multipurpose products to reduce its chemical inventory. It now uses Green Seal-certified and other environmentally friendly products. It eliminated paper cleaning towels and replaced them with microfiber cloths, which are used for general cleaning and for applying floor finish.

Battery-powered floor equipment helps the district reduce water and chemical use, and it recently purchased new floor burnishers with dust-collector systems. Carpeted areas and floor mats are cleaned with extractor systems to minimize the amount of cleaning solution and water being used. The district maintains a large inventory of floor mats, which remove debris from foot traffic and prevent it from entering the building.

The district also has a strong recycling program at its five elementary schools. Many staff members have received certification from the Regional Waste Management Association for recycling. In 2007-08, two elementary schools were presented with the first state award and recognized as environmental schools by the Craighead Regional Solid Waste Management District of Arkansas and the Arkansas Department of Environmental Quality. ■

STORY OF INNOVATION—GREEN PRODUCTS: In 2008, Jonesboro (Ark.) Public School District mandated that its cleaning contractors switch to green products. Many of them now mirror the district's program and use the same products. One contractor uses equipment that requires no chemicals to remove old finish from VCT flooring, which covers about half of the area the district maintains.

GREEN CLEANING AWARD for Schools & Universities

HONORABLE MENTION

SCHOOL DISTRICTS

OSWEGO C.U.S.D. #308—OSWEGO, ILL.

BRIAN WUSSOW AND DAN KENYON

PROGRAM INFORMATION

Number of students: 14,989

Square footage maintained: 2,927,698 sq. ft.

Number of full-time custodians: 115

Annual cleaning budget: $500,000 (approximate)

Green-cleaning team members: Bill Baumann, Director of Buildings and Grounds; Gene Weiss, Custodial Supervisor; Gary Rice, Unique Products & Service Corp., Janitorial Product Distributor

Oswego C.U.S.D. #308 began testing green products in 2004 when its janitorial product distributor introduced several Green Seal-certified products and trained staff members how to use them. After a one-month trial period, staff members gave the products a favorable review, and District 308 switched its 20 schools from traditional cleaning chemicals to Green Seal-certified products. Now in its fourth year of green cleaning, district employees are excited about using chemicals that are safe, have no affect on allergies or asthma, and don't harm indoor air quality.

Concentrated cleaner used in the district's scrubbing machines creates a foam that uses 80 percent less water than traditional systems. The district uses CRI Green Label-certified backpack vacuums and upright vacuums, and its extractors have the CRI Seal of Approval. Microfiber products are used for mopping, dust mopping and wiping. Microfiber products are re-washable without detergent and eliminate waste. No chemicals, such as dust mop treatment, are used in microfiber wipes.

The district also uses the least harmful disinfectants and blends all of its concentrates through a measuring system. It uses paper products that are 100 percent recycled and 88 percent post-consumer product. Dispensers can be adjusted to prevent waste.

Employee training and communication with students and visitors is an important part of the green-cleaning program at District 308. Employees are trained in the use of Green Seal-certified chemicals twice a year and are tested regularly regarding their use. Once a month, they are graded on their work and how well their areas are cleaned. Staff members and students are encouraged to wash hands regularly, and decals at school entries notify visitors that the district is "green." ■

STORY OF INNOVATION—GREEN PRODUCTS: Oswego C.U.S.D. #308 currently is testing a few green floor finishes and strippers, and hopes to select one in time for next school year. It also is testing degradable trash can liners that last less than two years in landfills and have a shelf life of 12 to 18 months. It hopes to begin using them at all district facilities within one year.

GRAND AWARD

COLLEGES

MIAMI DADE COLLEGE, NORTH CAMPUS—MIAMI

PROGRAM INFORMATION

Number of students: 50,000

Square footage maintained: 214 million sq. ft.

Number of full-time custodians: 17

Annual cleaning budget: $136,665

Green-cleaning team members: Cristina Mateo, Dean for Administration; Maurice Williams, Director of Campus Support Services; Wilson Georges, Director of Custodial Services; DadePaper, Allied Paper & Supply, Unisource Worldwide, Inc., Janitorial Product Distributors

The green-cleaning program at Miami Dade College's north campus began in fall 2005 and includes the extensive use of green chemicals and equipment for everyday cleaning, a college-wide green recycling program, environmental design, and green consideration in all capital improvements to facilities and grounds.

When the program began, the university partnered with Florida School Plant Management Association (FSPMA), recognized by the state of Florida for its green-cleaning training and standards, to train, qualify and certify custodial supervisors and staff to direct its green-cleaning program and initiative. This training involved 64 hours of instruction through five courses, covering customer service, use of chemicals and equipment, safety considerations, and how to energize and motivate the custodial staff. The real reward was the opportunity for administrators and staff to take and pass a written and practical exam to attain state certification.

The campus was able to reduce its chemical inventory from 16 to seven products, all of which are green chemicals. Chemical distribution systems are placed strategically throughout the campus, and their use is supervised by qualified personnel. The north campus goal is to direct green cleaning to include the areas of glass cleaners, bathroom cleaners, carpet cleaners, general-purpose cleaners, vacuum cleaners, hand soaps, floor finishes and floor-finish strippers.

The campus uses environmentally friendly cleaning equipment such as auto-scrubbers, which eliminate solution mixing, use foam for less water consumption, and dispense detergent at ejection. It also uses vacuums with high-efficiency filtration traps (99.6 percent at 0.3 microns) for improved indoor air quality. Its floor burnishers feature dust-control technology to maintain a healthful air environment.

The campus recycling program recovers paper, corrugated cardboard, aluminum cans and plastic bottles. Cardboard-recycling dumpsters are next to the receiving department, cafeteria and bookstore. Paper-recycling containers have been placed in the buildings, along with plastic and aluminum receptacles. ■

STORY OF INNOVATION—GREEN TEAM: Miami Dade College's north campus has generated interest in its green initiative by forming a Green Team committee, consisting of administrators, staff, faculty and students, with community support. It also uses the university's public television station to air 60-second announcements about how the campus and community can assist in green efforts.

GREEN CLEANING AWARD
for Schools & Universities

HONORABLE MENTION

COLLEGES

COLORADO COLLEGE—COLORADO SPRINGS

THOMAS ALLEN

PROGRAM INFORMATION

Number of students: 1,900

Square footage maintained: 1.8 million sq. ft.

Number of full-time custodians: 49

Annual budget: $85,000 (cleaning products)

Green-cleaning team members: George Eckhardt, Assistant Director, Facilities Management; Thomas Allen, Custodial Operations Manager; Pete Archuleta, Jessica Ramirez, Day Shift Supervisors; Bryan Steven, Erick Miranda, Evening Shift Supervisors; Karen Hunt, Resident District Manager, Sodexo; Lesa Zeller, Unisource

Colorado College's custodial department partnered with its chemical and supply vendors in 2006 to determine how to take its cleaning program beyond a "reduce, reuse, recycle" mindset. The college began its green initiative by reducing its chemical inventory; piloting environmentally preferable chemicals, and microfiber cloths and mops; and installing better chemical dispensing systems.

The department reduced its number of cleaning products by half and now uses only four core products (three Green Seal-certified cleaners and a disinfectant). These four products are dispensed through a centralized system that reduces waste and water while controlling the amount of chemical dispensed. The department also uses color-coded microfiber cloths and microfiber mop heads in all areas, eliminating disposable paper cloths and reducing water usage.

The college also has changed some of its cleaning processes to make them more environmentally friendly. To remove floor finish, it uses a new technology that eliminates the need for caustic chemical floor strippers. The technology enables the college to remove floor finish in half the time, using only water. The college also has replaced vacuums with dual-filtration units to improve indoor air quality. The facilities department has provided a sizeable budget to purchase new equipment that has a more positive impact on the environment.

To educate its team on these new processes and procedures, the department used in-house and vendor training. It also communicated the changes to the student body by placing tent cards in all student rooms, announcing that the rooms were cleaned with Green Seal-certified products.

The college's green-cleaning program is a key component of the Campus Sustainability Council's sustainability plan. ■

STORY OF INNOVATION—RECYCLING: Next academic year, Colorado College will move toward single-stream recycling in which all recycling is co-mingled and separated at a processing facility, eliminating the need for separate recycling containers. The goal is to reduce waste by 50 percent. The college will serve as a pilot location for single-stream recycling for the city of Colorado Springs.

GREEN CLEANING AWARD for Schools & Universities

GRAND AWARD

UNIVERSITIES

>> UNIVERSITY OF CALIFORNIA—SANTA BARBARA

GEORGE FOULSHAM

ALFREDO HERRERA

ALFREDO HERRERA

JOEL GONZALEZ

PROGRAM INFORMATION

Number of students: 21,410

Square footage maintained: 6,291,111 sq. ft.

Number of full-time custodians: 109

Annual cleaning budget: $4 million (salaries); $500,000 (supplies)

Green-cleaning team members: Jackie Treadway, Director of Facilities Management; Byron Sandoval, Superintendent of Custodial Services; Santa Barbara Window Cleaning, Exterior Window Cleaning Contractor

The green-cleaning program at the University of California—Santa Barbara (UCSB) began in 2002 in Bren Hall, a LEED-NC platinum-certified building. The facilities management department realized the benefits of green cleaning, and it became the standard for custodial services across campus.

The university developed its Low Environmental Impact cleaning policy in 2003-04 with the following goals: improve indoor air quality, increase occupant health, train staff to think and act in an environmentally friendly manner, and monitor these new initiatives to determine the benefits of green housekeeping.

UCSB uses four primary cleaning products that are Green Seal 37-rated and two floor finishes that are Green Seal 40-rated. Aerosol products are prohibited.

Custodians are trained on green-cleaning procedures, including proper maintenance of waterless urinals, how to use each cleaning apparatus, proper ergonomic use of machinery, proper lifting and effective recycling.

The university's cleaning equipment includes a chemical-proportioning system, Action Control System (ACS); micro-mops, which use less cleaning product and water than traditional mops; and vacuums with HEPA filters. Walk-off mats collect dirt and debris, and prevent it from being tracked into buildings. Mopping and vacuuming take place after business hours when most occupants are gone.

The university uses non-antimicrobial and phosphorous-free hand soap in all campus dispensers. Bathroom hand towels are made of 100 percent recycled content, and paper towels for window washing are 40 percent recycled content. It has replaced bottles of cleaning reagents with bags, which use less space and 60 percent less plastic.

The custodial-services department provides green-cleaning products to other university departments free of charge and delivers them in less than one hour from the time they are requested. In addition, Byron Sandoval, superintendent of custodial services, gives green-cleaning presentations to campus departments. ■

STORY OF INNOVATION—PARTNERSHIP: UCSB's custodial superintendent, Byron Sandoval, approached Buckeye, a cleaning and maintenance products manufacturer, about developing a green (zinc-free) floor finish when he realized there was no such product on the market. As a result, Buckeye developed Verde (Green Seal 40-rated), a name selected by Sandoval and the Buckeye representative.

GREEN CLEANING AWARD for Schools & Universities

HONORABLE MENTION

UNIVERSITIES

>> MICHIGAN STATE UNIVERSITY—EAST LANSING

STEPHANIE BLACK

PROGRAM INFORMATION

Number of students: 46,000 (campus population); 14,859 (residence hall population)

Square footage maintained: 4,892,517 sq. ft. (residence halls)

Number of full-time custodians: 164

Annual cleaning budget: $8,656,000

Green-cleaning team members: Bob Wiltsie, Assistant Manager, CMID; Denise Gerst, Procurement Coordinator; Chip Hornburg, Facilities Manager, Brody Complex; Paul Manson, Facilities Manager, South Complex; Diane Barker, Facilities Manager, East Complex; JohnsonDiversey, Janitorial Product Distributor; Lansing Sanitary Supply Co., Michco Co. Inc., KSS Enterprises

Michigan State University's Division of Housing & Food Services (H&FS) has embraced environmental responsibility and promoted sustainability since 2005. Its green-cleaning program encompasses education, training, cleaning chemicals, equipment, paper products, recycling, energy reduction, appropriate staffing and work processes that are environmentally preferable.

H&FS disinfects all touch points in public restrooms and polices them throughout the day. It uses a ready-to-dispense (RTD) spray system, along with a no-touch cleaning system for hard-surface cleaning in restrooms and stairwells. The concentrated products are made from 25 percent post-consumer recycled plastic, are 100 percent recyclable, and reduce packaging.

The division uses Envirobox, a bag-in-a-box (BIB) with an adjustable valve to control flow rates, and prevent splashing and waste. These bladders use 91 percent less plastic than 5-gallon pails.

Walk-off matting helps keep residence halls free of debris. In addition, the division uses two-motor upright vacuums, backpack vacuums, and battery and/or electrically-powered carpet sweepers.

The division's cleaning program also includes microfiber products, a pre-treat system for mops and trowel pads, and color-coded towels to prevent cross-contamination.

H&FS has an employee training program, "Safe @ State." In conjunction with this program, the division introduces a specific topic to staff members each month. Full-size posters advertise the topic, and topic cards are given to employees for discussion in meetings.

To evaluate its program, H&FS purchased software that establishes appropriate cleaning and staffing levels, and uses hygiene-monitoring products to measure cleanliness levels and potential problem areas in facilities. ■

STORY OF INNOVATION—RECYCLING: The Pack Up, Pitch In, Help Out (PUPI) recycling program, designed to encourage students to recycle unwanted items during move-out, collected 110,261 pounds of recyclable materials in 2008. The university will complete a new recycling facility in fall 2009 and has established an Environmental Stewardship Workgroup to develop new initiatives.

GREEN CLEANING AWARD for Schools & Universities

HONORABLE MENTION

UNIVERSITIES

>> UNIVERSITY OF GEORGIA—ATHENS

HOLLY MOORE

PROGRAM INFORMATION

Number of students: 44,000

Square footage maintained: 9.5 million sq. ft.

Number of full-time custodians: 315

Annual cleaning budget: $18.5 million

Green-cleaning team members: Kimberly Thomas, Assistant Director of Services; Al Jeffers, Interim Superintendent of Building Services; Leo Billups, Maurice Derricotte, Assistant Superintendents; Deborah Massey, Building Supervisor; Tom Link, Training Specialist; Athens Janitor Supply Company, Grainger, Thornton Brothers, Janitorial Product Distributors; UGA Physical Plant Units: Support Services, Grounds, Energy Services, Human Resources/Safety Office, Operations and Maintenance, Engineering Departments

Old College, constructed in 1803, was the first building on the University of Georgia, Athens (UGA), campus to adopt green cleaning. As part of the facility's rehabilitation in 2005, the physical plant services department (PPD) removed 20 traditional cleaning chemicals and replaced them with two green products and one disinfectant.

UGA's goal was to evolve the entire campus into a green-cleaning operation within three years. It is in the process of converting almost 60 buildings into north and south campus green corridors. These areas will focus on indoor air quality through green-cleaning techniques, increased indoor/outdoor recycling stations, green operations and maintenance practices, pedestrian-friendly walking malls and bike racks.

The university has developed the Building Service Worker Academy to standardize cleaning operations. Employees are taught the proper use of green-cleaning products, equipment and tools; techniques to reduce cross-contamination; procedures for universal waste handling; and inventory-control measures.

The department has regular supervisory crew meetings that stress safety training. Each building has been work-loaded (electronic data entry) into Custodial Maintenance Management (CMM) software for floor-by-floor chemical and equipment inventory, routine cleaning assignments, training cards, cleaning task checks and cost projections by facility. Quality-assurance checks are completed by PDA and downloaded for a final building report.

To evaluate its program, an ISSA-CIMS-certified OSHA trainer conducts quality-assurance checks. The deparment has saved $212,000 by reducing chemical use and eliminating more than 350 traditional products. Employee absenteeism has been reduced within the last three years as well. ■

STORY OF INNOVATION—COMMUNICATIONS: UGA engages others in the responsibility of green cleaning with water/energy-conservation posters in all restroom areas, a green-building listserv, an e-mail address for green-cleaning concerns, a "Go Green" website, partnerships with student groups and faculty/staff to publicize green cleaning, campus-wide recycling efforts, and the Go Green Alliance.

GREEN CLEANING AWARD for Schools & Universities

HONORABLE MENTION

UNIVERSITIES

>> WESTERN WASHINGTON UNIVERSITY—BELLINGHAM

WESTERN WASHINGTON UNIVERSITY

PROGRAM INFORMATION

Number of students: 13,500

Square footage maintained: 1.8 million sq. ft. per shift (day)

Number of full-time custodians: 75

Annual cleaning budget: $150,000 (operational)

Green-cleaning team members: Tim Wynn, Director of Facilities Management; Michael B. Smith, Head Custodian; John Timmerman, Swing Shift Supervisor; Heather Dodd, Day Shift Supervisor; Coastwide Labs, Janitorial Product Distributor

Western Washington University (WWU), Bellingham, began its green-cleaning program in 2000, reducing its chemical inventory from more than 60 products to 20 green products, with only three main products used daily.

The university's goal is to clean using only water or steam vapor for all standard processes, eliminating the use of chemical products.

This year, the university began using a touchless cleaning system for all restroom, shower room and locker room cleaning. Vacuuming is done so that the lower areas in buildings receive more frequent attention than those in other areas, reducing maintenance. Barrier matting helps prevent materials from entering buildings.

Team training is a large part of the university's green-cleaning program. All new hires take part in a 60-day training and orientation. Student workers must score 80 percent or better on an exam that tests their knowledge on green-cleaning operations.

The university began a paper towel-composting program this year, which removes all used restroom towels from the waste stream. Starting in the 2008-09 semester, the university hopes to initiate a desk-side recycling program for all workstations on campus using small desktop/side trash receptacles and 7- to 10-gallon recycling receptacles.

In partnership with the student health center, the university has developed a high-profile handwashing campaign, which uses notices on restroom mirrors to promote proper hand care.

The AS Recycle Center, a student-owned and managed operation, collects about 3,800 pounds of plastics, aluminum, tin, steel, wood, paper and cardboard each day, amounting to more than 1 million pounds of recycled materials per year. The Resident's Awareness Program (ResRAP), in coordination with the AS Recycle Center, employs peer educators with an acute awareness of campus sustainability practices. These volunteers, known as EcoReps, promote a conservative consciousness regarding waste, reuse, reduction and recycling. ■

STORY OF INNOVATION—ASSESSMENT: WWU evaluates its custodial program with weekly job inspections, spot inspections and random walk-throughs. ATP meters test bacteria levels on surfaces to monitor proper sanitation and provide data regarding cleanliness. The Breeze software program, which assesses all areas for cleaning quality using PDA software-driven evaluations, is in its pilot stage.

GREEN CLEANING AWARD for Schools & Universities

Notable Improvements

Lessons learned from this year's GCA winners.

STEPHEN ASHKIN

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SteveAshkin@GreenCleaningNetwork.org

As far as green is concerned, the best way to end the year is by recognizing the outstanding education institutions that are the 2008 winners of the "Green Cleaning Award for Schools & Universities" sponsored by *American School & University* magazine, the Green Cleaning Network and the Healthy Schools Campaign.

The competition had a 25 percent increase in the number of applicants compared with last year. More notable was the improved quality of the applications, especially in four areas:

•**Innovations.** A clear trend from the winners is that they never stop improving their programs—by introducing innovative products, including greener cleaning chemicals; janitorial power equipment that reduces or eliminates the use of chemicals; strategies to eliminate floor stripping, which is one of the most hazardous cleaning procedures; the expanded use of color-coded microfiber products; paper products that demonstrate that improved quality actually can reduce consumption; and reductions in packaging.

With the growing commitment from cleaning product manufacturers, more improvements lie ahead. This year's winners illustrate the need to build a process to improve and evaluate new technologies continually.

•**Training.** Even the greenest product, if misused, can lead to unnecessary and negative health and environmental impacts. This year's winners demonstrated a commitment to employee training through documented training sessions, structured programming, and input from cleaning personnel and building occupants. This leads to improvements in training programs, multilingual training and more.

•**Communications.** Whether in a university residence hall or an elementary school classroom, maintenance supervisors face the challenge of getting occupants—including students and staff—to make better decisions that affect how the rooms and buildings are cleaned. This year's winners demonstrated innovative communications programs that address how occupants can affect their health and the environment.

Winners also developed programs to reach out to the community, including 60-second television spots. Plus, some of the winners leveraged their programs to require contractors to convert to green cleaning—helping to drive green throughout the marketplace.

•**Measurement.** One of the biggest challenges with green cleaning, and cleaning in general, is its lack of objective measurements. This year's winners used a number of measurement techniques, including custodial-management software, PDAs for quality assurance, ATP meters and cleaning-standard certifications. Although we still have a long way to go to standardize objective cleaning-industry metrics, it is clear that the winners are leading the way. ■

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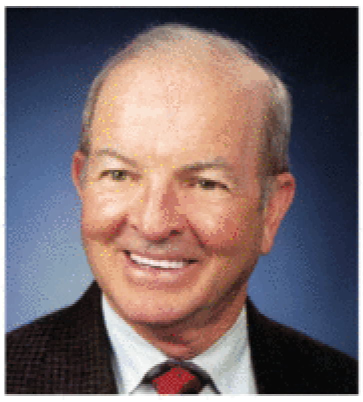
The Right Call

Selecting a Voice over IP (VoIP) system.

C. WILLIAM DAY



Day is senior analyst at KBD Planning Group, Young Harris, Ga., a firm specialized in education facilities and technology planning. He can be reached at bday@kbdplanning.com. www.kbdplanning.com

As most people know by now, Voice over IP (VoIP) systems enable telephone calls to be made over an IP data network instead of the traditional public switched telephone network system. There's no question—VoIP is changing the face of school telephony. But finding the right phone system for a school isn't easy.

Any VoIP phone system can save money over a traditional system. It's simple: there is a benefit for reducing communication and infrastructure costs by routing phone calls over existing data networks and avoiding duplicate network systems, plus less technical maintenance is required. Most IP telephony systems have intuitive, browser-based management interfaces, which enable schools to manage the entire system—from switches to voicemail, automated attendant and desktop applications—from anywhere on the network.

Selecting features is one of the pitfalls that institutions encounter with VoIP. Administrators often purchase more features than necessary. It is important to identify the necessary features and stick with those decisions.

Some key features:

•**Auto-attendant**. An automated attendant often takes the place of a real receptionist.

•**Voicemail**. This is an essential feature and enables callers to leave messages in specific mailboxes that usually are assigned to teachers or departments. Make sure the phone system has enough ports so that a reasonable number of callers can leave messages simultaneously and a reasonable number of employees can check messages simultaneously.

•**Call hold**. This is a basic, but often forgotten, feature.

•**Call forward**. Staff members use call forwarding to transfer calls to other extensions or voicemail boxes.

•**Conferencing**. Look for systems that enable you to conference up to five parties at a time.

•**Speed dial**. Speed dial enables callers to assign commonly dialed numbers to a button on the handset. Pressing that button then will dial the number associated with that button.

•**Redial**. Similar to speed dial, pressing the redial button on a handset will redial the last number called.

•**Paging**. Not necessarily a required feature, but a useful one. Paging enables a staff member to broadcast a message to the speaker of another handset.

•**Handset**. Matching the correct handset type for the right staff function is cost-effective: there's no reason to pay for features that won't be used.

Most vendors offer a long list of these and other VoIP system capabilities. The most important question: What are the basic features that your school needs? Don't get tied to long leases or buy equipment or options that may go unused. ■

Happy School= Success

Education institutions should evoke positive emotions.

JAMES E. RYDEEN

Rydeen, FAIA, is an architect/facility planning specialist and former president of Armstrong, Torseth, Skold & Rydeen, Inc. (ATS&R), Minneapolis. He can be reached at Jrydeen@atsr.com.

Describe your school. Does the word "happy" come to mind? Many districts provide mission and vision statements; however, "happy" does not seem to appear.

Rick Miller, the founder of Kids at Hope, a program that empowers students for success, recently wrote a newspaper article, "Why Shouldn't our Schools, Teachers, Staff be Happiest on Earth?" Miller states that schools theoretically possess the three most basic elements to create a "happy school." They provide places where children get to be with their friends; learn new knowledge and skills to dream, grow, plan and prepare for the future; and are surrounded by adults who care about them.

The physical environment contributes to a happy school. Studies have proven that building conditions can affect the attitudes of students, teachers and parents. People feel better about themselves when their surroundings are pleasant.

Architects, facility planners and educators must consider the impact that design has on student and teacher attitudes. Staff members pleased with a building design create a happy learning experience for students. Those displeased with the design of the school, their space, physical conditions, even leadership, create unhappiness.

In one example, a vision committee selected a continuous-progress educational philosophy for its new school. The design created three neighborhoods, each using the open classroom concept grouped around a flexible team learning area and forum. Once the building opened, administrators and teachers were unhappy because they found it difficult to adjust to the openness. Eventually, the district appointed a new principal—someone who served on the vision committee and bought into the design concept.

In another case, a newspaper reported a "sick school" with a history of malfunctioning ventilation equipment, dripping mold and high carbon-dioxide levels that made inhabitants ill. The high school in question was built in 1977 and was heralded for its innovation in energy conservation. Typical for its time, it had few windows and tight ceiling space for mechanical equipment. But in subsequent years, headlines showed that the facility was not a happy environment.

The crumbling facility infrastructure problems reported in the 1996 GAO report "School Facilities: America's Schools Report Differing Conditions" still are with us. Many schools have not been repaired.

Staff and students are affected by more than just the building and learning environment. But a beautiful, functional, maintained and safe physical environment can enrich their working and learning experiences.

Miller concludes that creating learning institutions where people experience happiness and hopefulness should be a top priority. ■

A hand in hiring

HR software features hiring tool that eases filtration of job applicants for school administration

Fridley Public Schools, Fridley, Minn.

PowerObjects. Fridley Public Schools (Minn.) posted one job online for a third-grade teacher in spring 2007 and received more than 600 applications. Using powerHR from PowerObjects, the district was able to handle these applications with ease.

The system enables greater management and better control of the hiring process. It makes it easier for applicants to apply for jobs, with the requisite documents attached; establishes online distribution to all users to review applicants and their materials; sets criteria for ranking applicants; ranks applicants for faster review of qualifications; makes the database searchable from any location at any time by multiple users; secures the database with online protection; and enables employees to add or delete templates as needed without a major overhaul of the system.

Aside from making the hiring process easier for staff, it also has made it more engaging for applicants.

"We've seen that the software program seems to inspire applicants to make more complete applications, which benefits them and helps our staff make the best hiring choice," says Peggy Flathmann, director of educational services. The district also discovered that the program comes with exceptional customer service.

"Usually if we have a problem with the system, or an upgrade has to take place, the guys at PowerObjects let us know how long it will take," says Flathmann. "Generally, it's the same day, but if it's going to be longer, they communicate that to us."

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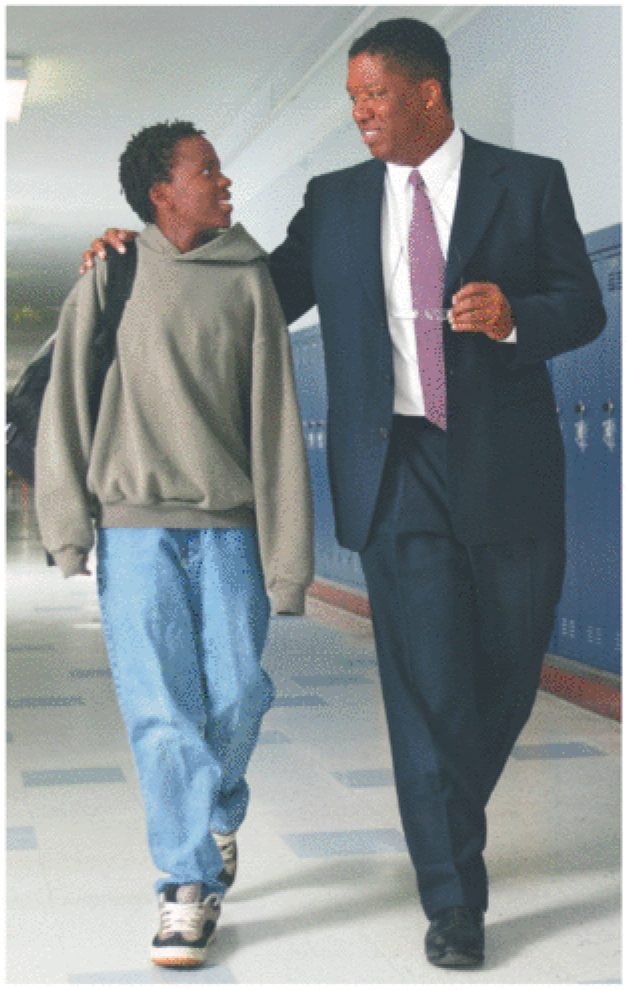

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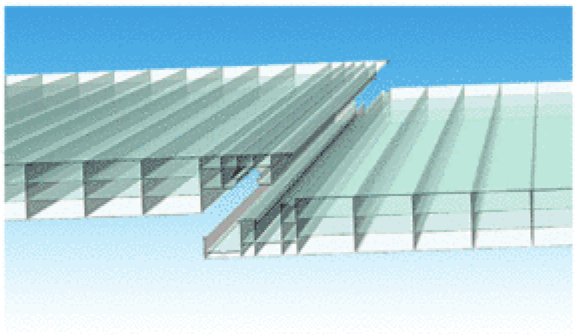

Knock-down stairs

Wildeck. The economical and modular Knock-Down Stair system can be assembled easily on the job site and installed in almost any facility. The stairs are available in 1/8-inch increments from 3 feet to 12 feet in height and can provide convenient access to elevated platforms and shelving systems.

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Polycarbonate sheet

CO-EX Corporation. Click 16 is ideal for glazing and roofing, and can be installed easily with standard tools. Its four-wall construction makes the sheet thermally efficient, adds to its strength, and offers high light transmission. It is opaque to UV rays, and the panels are just 9 inches wide. CO-EX Corporation manufactures a full line of polycarbonate sheet including Macrolux multi-walled sheet, Rooflite corrugated sheet, BDL standing-seam modular panels and Modulit vertical glazing systems.

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Wireless access control

SARGENT. Profile Series v.S2 products integrate WiFi technology, a Prox reader, an optional keypad and monitoring capabilities at the door. They work with any open architecture access-control system, providing centrally managed control without many of the costs, labor and infrastructure upgrades associated with a traditional hard-wired system.

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Projector

Planar Systems. The PR9030 projector has XGA or WXGA options, and high brightness (4,000 lumens) for crisp viewing of large, digitally projected images make it ideal for lecture halls and mid-to-large conference rooms. It features quiet operation (30dBa in whisper mode) and a powerful 4WX4 built-in speaker system. With an easy-to-replace, single long-life lamp, it offers versatility and performance.

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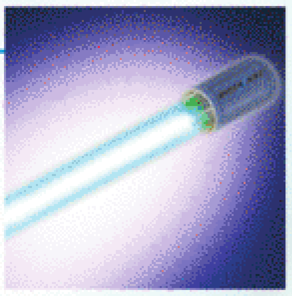

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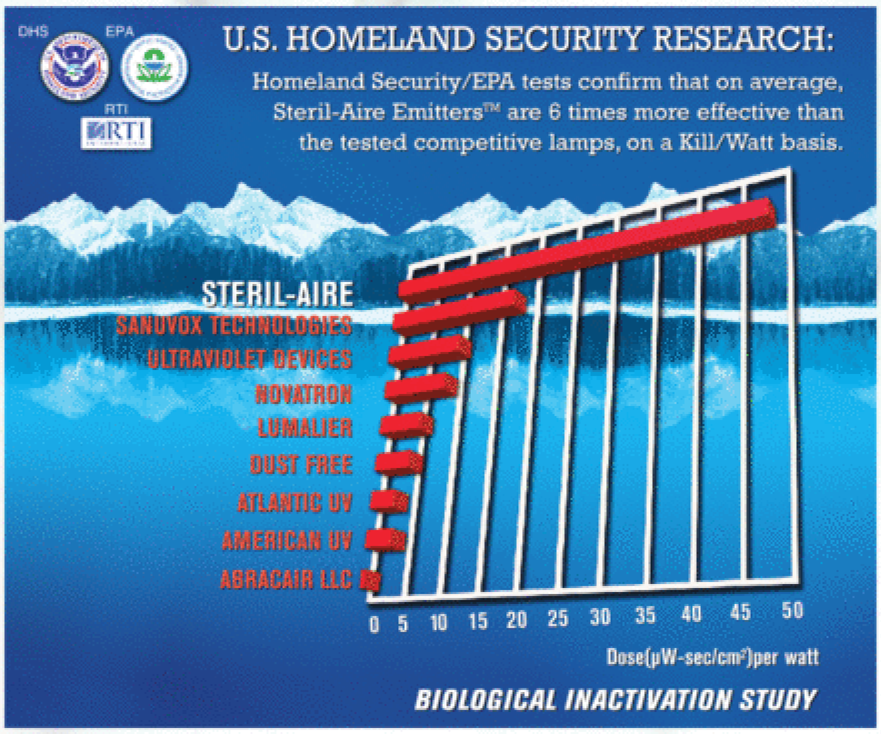

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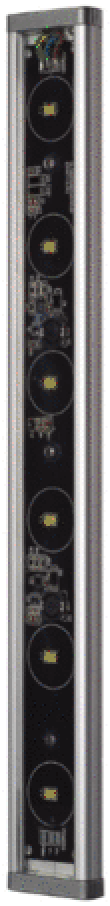

Task lighting

Solid State Luminaires. The Slimline Series is a slim profile (1.4 inches by ½-inch) linear LED lighting strip that uses LEDs optimally spaced to produce uniform surface illumination. The strip is available in lengths from 12 inches to 46 inches, is IP68-rated and is capable of being fully submerged. It is ideal for cove lighting, display cases and task illumination.

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Door accessory

IR Security. The LCN 4040 Snap-on Cover for the 4040 door closer snaps on quickly and easily, yet stays in place securely. The cover keeps buildings looking their best while protecting closers from damage and reduced performance. No screws are required; a patented snap bracket, adjustable to fit both right- and left-handed doors, ensures fast, simple installation. A spring clip insert attaches to the spring tube of the door closer cylinder body. ■

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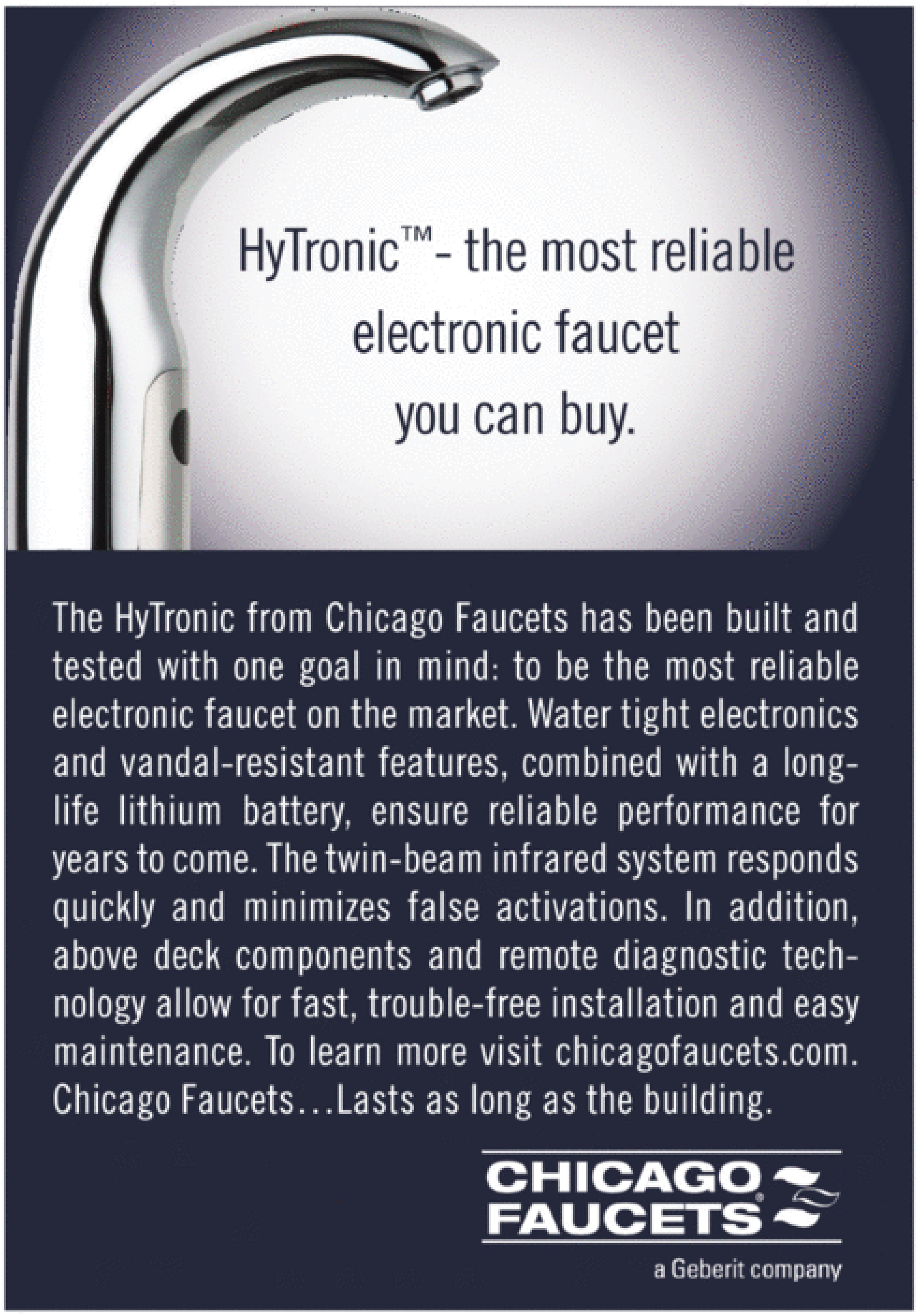

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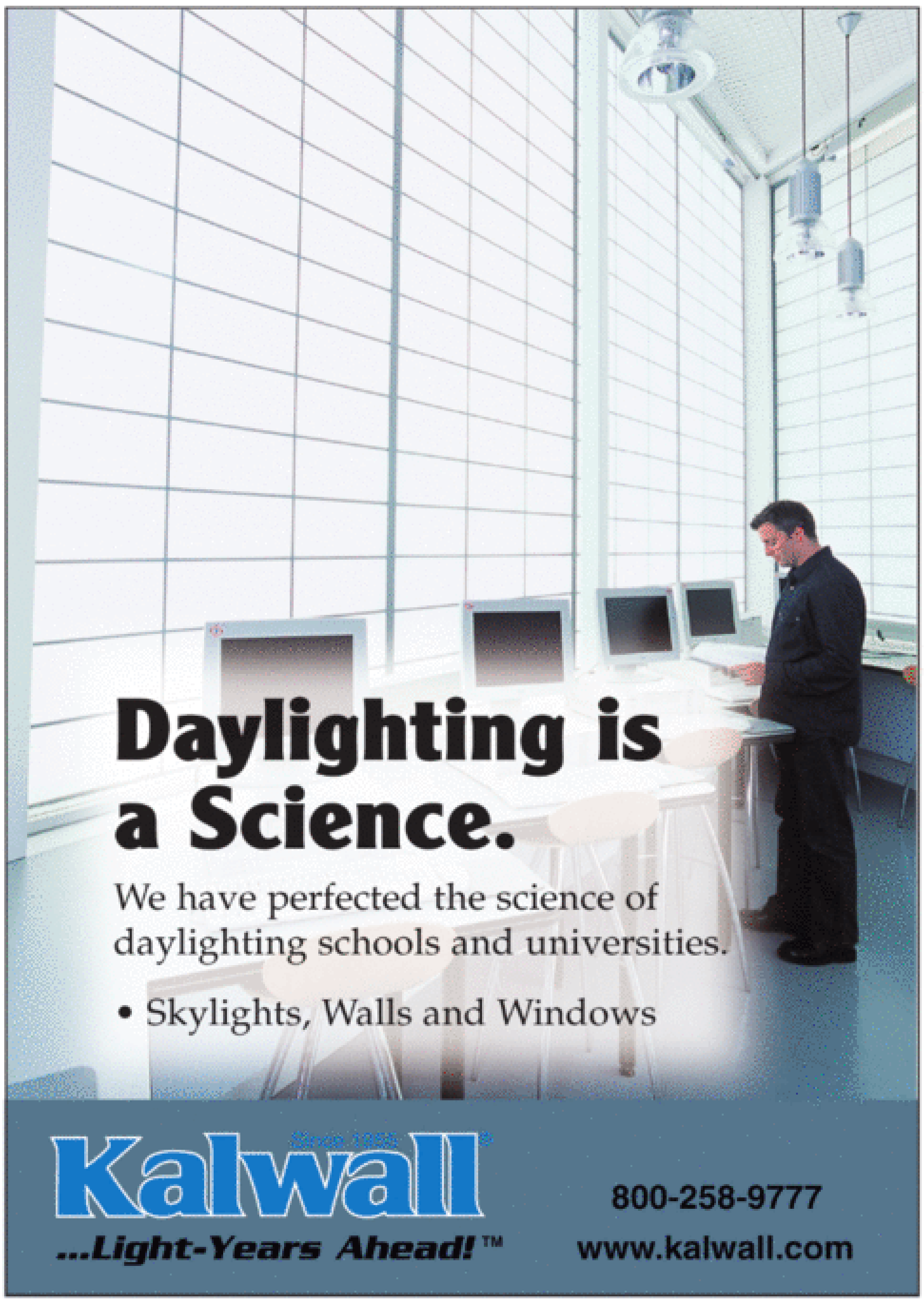

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Educational Facilities Get a Lesson in Eco-Arithmetic from The Mohawk Group

Helping educational facilities reach their "green" goals, The Mohawk Group is shaving weeks off the environmental product specification process with its new LEED® PLUS Calculator™. Powered by ecoScorecard from Viridity Inc., the LEED PLUS Calculator is a Web-based tool that allows users to search its product portfolio and calculate The United States Green Building Council's LEED certification points, along with several other industry environmental ratings, in minutes.

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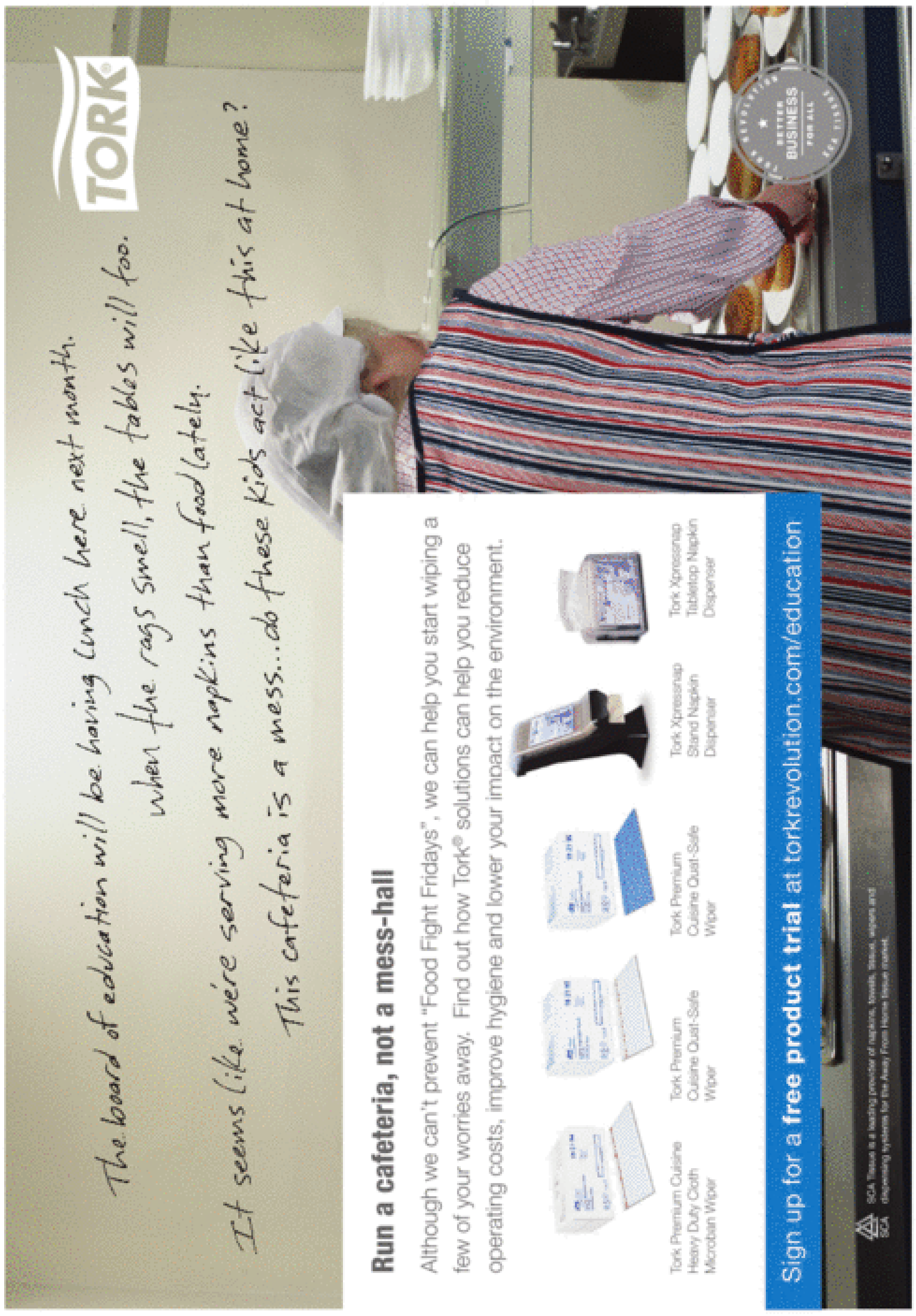

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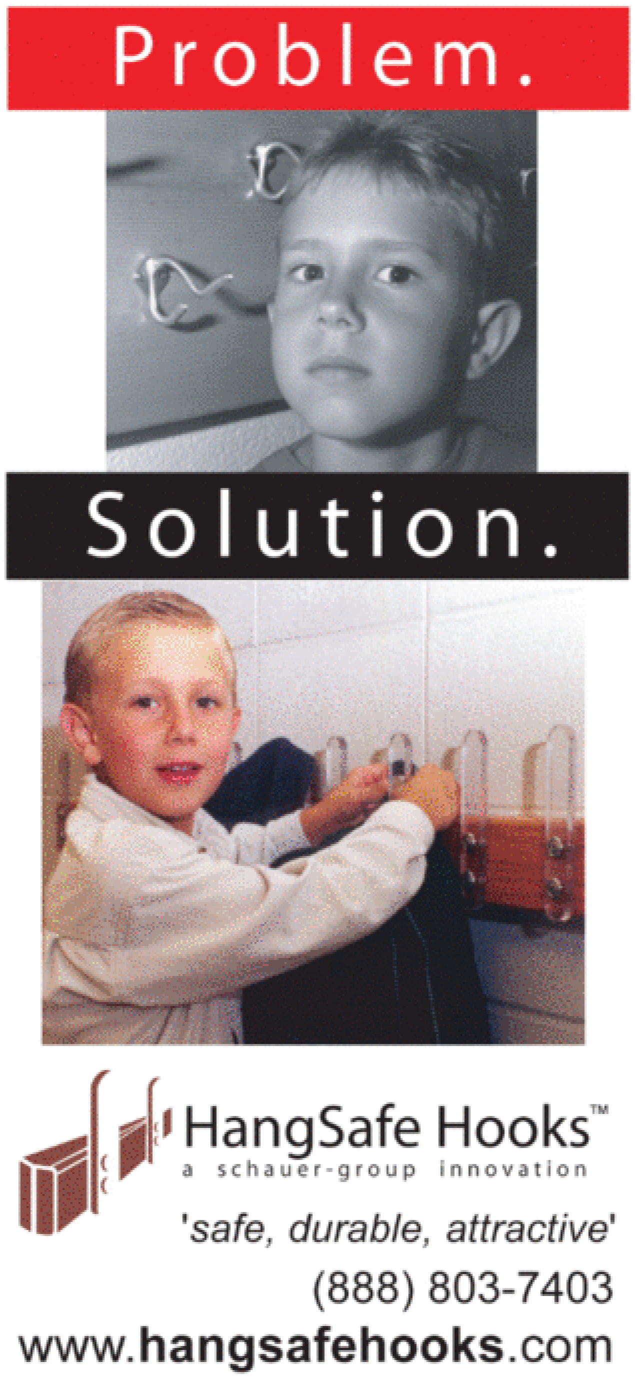

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Whether students' talents are showcased in the performing arts or athletics, it's essential that equipment storage solutions in a high school support these programs in order to provide students with the best opportunity for success.

San Marcos High School in San Marcos, Texas, which opened in 2007, turned to Wenger Corporation for storage solutions in both areas. For the music suite, this included instrument storage cabinets with features like heavy-duty, load-tested hardware and bolt-through construction to help ensure years of trouble-free service. Modular construction enables future relocation or reconfiguration; field-replaceable components and designed failure points minimize any repair headaches.

Band director Kelly Rushfeldt recalls the homemade shelves he used at previous schools. "Those shelves were carpeted and collected dust – they were gross!" he says. "I much prefer our new cabinets, including the security of being able to lock them up."

Security is an important consideration in the music suite, as the combined value of musical instruments, robes/uniforms and sheet music can approach $500,000. Protecting this investment requires cabinets tough enough to withstand the heavy use and abuse of an institutional environment.

The proper arrangement and location of instrument cabinets, in particular, minimizes congestion before and after class by spreading out students. This promotes a more efficient traffic flow and helps to maximize rehearsal time.

When storage cabinets are located inside the rehearsal room, acoustical considerations are important. Cabinets with grille doors or no doors ensure the room's cubic volume is not compromised; cabinets are also available with built-in acoustical absorption.

For off-season or loose storage needs, Rushfeldt likes their new Storage Attics designed to fit on top of instrument storage cabinets. "They are great for storing equipment we don't use all the time, keeping the dust off and keeping things out of harm's way," he says. "They also look really nice."

Form and function also co-exist in the San Marcos HS athletic department, where nine GearBoss® carts store football equipment. As in the music area, improved organization and better security are major benefits.

"At our previous school, stuff would just disappear," recalls Jaime J. Perez, M.Ed., ATC, LAT, head athletic trainer and equipment supervisor. Not only were the storage areas unsecured, Perez says it was challenging to track different equipment and related reconditioning schedules.

While the GearBoss carts were a major investment, Perez believes their practicality, functionality and efficiency justifies the expense. He says the savings from improved security were substantial – between $5,000 and $8,000 annually. "Losing equipment reduces my available budget for purchasing new stuff," Perez explains.

"The space utilization is very good with the GearBoss system," he concludes. "We've been able to condense equipment all into one room, and it's much faster and more efficient to work with everything."

Whether your storage solutions serve the performing arts or athletics, improved security, better organization and greater efficiency are key objectives. By safeguarding your equipment investment and managing it more effectively, your school can help provide your students with optimal opportunities to demonstrate their talents.

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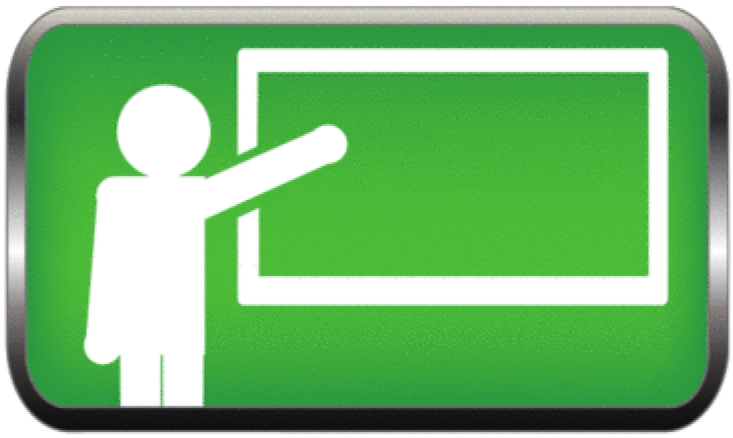

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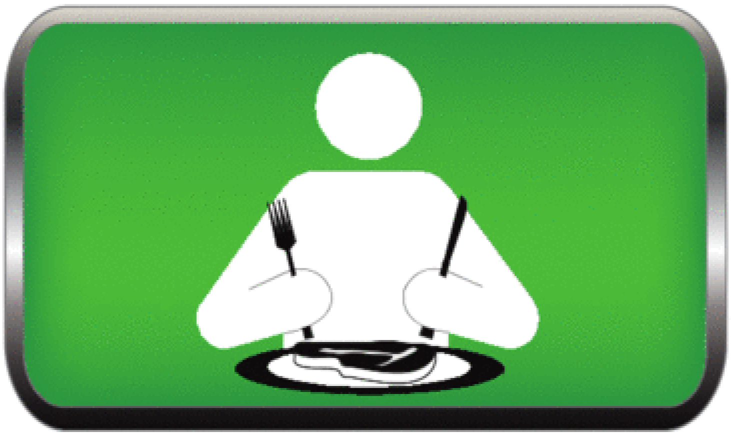

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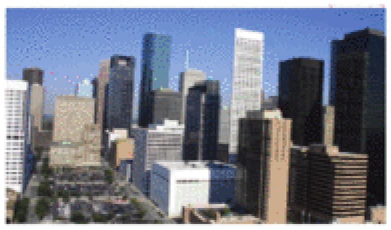

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